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LECTURES BY M. DE BLAINVILLE ON COMPARATIVE OSTEOLOGY.

THE

COMPARATIVE OSTEOGRAPHY

OF THE

SKELETON AND DENTAR SYSTEM

IN THE FIVE CLASSES OF

VERTEBRAL ANIMALS,

RECENT AND FOSSIL.

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WITH GRAPHIC DELINEATIONS BY M. WERNER;

EDITED (FROM THE FRENCH) AND

ADDITIONALLY ILLUSTRATED

WITH NUMEROUS NOTES, OBSERVATIONS,

AND DRAWINGS,

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On the Antiquity of the Primates on the Surface of the Globe.

AFTER having studied, as we proposed, the skeleton and dentar system of the three great genera of Mammals, considered as Primates, or individuals belonging to non-existing species, and of which we have examined all the component parts, not merely entire, but also in harmonic connection with each other, we proceed now to inquire if, in the bosom of the earth, there may not exist fragments of solid parts referrible to animal species of one or other of the existing groups, or to species which may fill up and complete any vacuities in the now existing arrangement of genera. But previous to such inquiry, it may contribute to render our work more generally interesting, and at the same time show how it may serve as a basis to zoology, if we examine, first, and in distinct chapters, the too classic history of the Primates, the principles of classification, their geographical distribution, and, finally, give the history of their traces discoverable in the works of authors.

1. History of Zoology as it regards the Primates.

Animals, which form the greater part of the order of Primates, even those which by their coarse resemblance to man, obtain for them the very name, appear to have been known from the remotest times. But although the ancients seem to have been acquainted with a considerable number of species of the Simiæ, more especially as a consequence of the conquests of Alexander, at least as M. Lichtenstein believes that he has proved in a dissertation *ex professo* on this point, this knowledge was at least very incomplete, and, as a result of their manner of viewing living beings, showed but little method, or, in other words, scientific arrangement.

Be this as it may, we find, already, in Aristotle, the founder of the logic which leads to a method of acquiring and preserving new acquirements in knowledge, and which in consequence leads to rational methods in the history of Nature; so that, perhaps, this great philosopher is the only one of the ancients who really merits the name of zoologist: we find, I repeat, the Simiæ already distinguished into Simiæ, properly so called, or Pithecos, into Apes with tails, which he calls Kebos, a name immediately replaced by that of Cercopithecos, into Cynocephalos, and even into Choiropithecos, or Pig Apes: distinctions established, as is evident, from a consideration of the tail and the form of muzzle, and in a system of nomenclature so natural and so rational, that they have formed the basis of everything good and solid that has been done, from the date of his celebrated *Historia Animalium*, that is to say, 2000 years ago, to the present day, and has been found applicable to new species discovered in hitherto unexplored parts of the world, in succession as they appear.

Amongst the ancient authors who wrote from the era of Aristotle to the middle age, that is to say, to the period of the learned Bishop of Ratisbonne, who formed the first gleam of the restoration of natural science in Europe, we observe scarcely any progress which zoology made, at least in the division

of Primates, excepting, perhaps, in the history of the Simiæ.

Pliny, for example, adopts the four divisions established by Aristotle, applying, as Strabo did, the name of Cercopithecus to the Simiæ with tails; but we find the new names of Sphinx and Satyres, perhaps originally drawn from fable, but which he applied to the Simiæ with cheek-pouches, whose character was even more gentle than that of Cynocephalus, than even in the Simiæ, properly so called.

Ælian cites a still greater number than Pliny, introducing, however, a single new term, that of Callithrix, indicating merely a peculiarity in the robe or skin.

Solin, although he may have added some geographical peculiarities in respect to species pointed out before his day, really added nothing to what Pliny had done.

Strabo, Oppien, Arrien, Nicephore, or rather Philostorge, ancient authors who merely spoke of the animals cursorily, and simply characteristic of the countries they wished to describe, added nothing to the previous knowledge respecting the Primates, and their writings scarcely enable us to guess the species of which they speak.

Albert the Great, however, who preceded the era of the renewal of letters, perceived distinctly that the Apes gradually descended in a scale from the Pigmy (without doubt the Magot), to that animal which he called Simia, and which certainly was the Papio; but he pointed out no new species.

Shortly, however, after the discovery of America, that is to say, at the commencement of the sixteenth century, many new species, and even particular forms, were discovered and described.

Thus, Gesner, in his important compilation, reunites under the common title of Simia, not only the Pithecus, Cebus, Cynocephalus, Chœropithecus of Aristotle, and the Sphinx, Callithrix, Satyrus, and Cercopithecus of Pliny, but also those Apes described by writers on America under the name of Sagouins, and which he scientifically called Galeopithecus, and even the Sloths, which he called Arctopithecus. Gesner, by the invention of these names, and by the reunion of the Simiæ of the new world, and even of the Sloth with those of the old world, showed, that notwithstanding the alphabetical arrangement of his work, he perfectly understood Aristotle and his nomenclature.

But this cannot be said so distinctly of Aldrovandi, or rather of Ambrosini, who arranged and published, in 1645, Aldrovandi's notes. In his work we find nothing new, and but little scientific.

1657. Johnston, whose abridgment was justly considered as a classical work, and almost a manual when compared with those of Gesner, augmented remarkably the historical part of the facts, by collecting all which had been published by Pison, Margrave, De Laët, Pierre Martyr, Oviedo, Garsillasso, Nieremberg, and other writers on America. The only scientific innovation which we find here, was his reunion of the Apes of the new continent, as he was entitled to do, with the Cercopitheci; and this was followed for a considerable time, and even by comparatively modern zoologists.

1635. Nieremberg, who, consequently, preceded Johnston, seems first, however, to have observed the relations of the Makis or Lemurs, which he called *Simius Zambus*, furnished in such abundance by Madagascar; relations which were speedily adopted by the first zoologists who had attempted a zoological classification and nomenclature.

1668. Charleton, whose method is only a copy of that attempted at the commencement of the fifteenth century, made of the Apes, the first genus of his class Semiferi, including with them *pell mell* the Carnivora, Insectivora and Rodentia, scarcely noticing the species; but amongst his divisions he comprised the Orang-Outan, which had just been noticed by Tulpius; and respecting the nature of which animal, he commenced those exaggerations which a false philosophy soon after laid hold of.

1693. It appears to me that we owe to Ray the first methodical arrangement of animals; and, although his aim was merely to facilitate the memory, he merits great praise. The Primates, which we examine at present, include, in the same chapter, not only the Simiæ and the Sapajous, but also one or two animals now generally known as Makis or Lemurs.

With respect to the Simiæ, properly so called, Ray pointed out very clearly their division, from the double consideration of the tail and the muzzle; and he added to their external characters the internal ones, drawn from the observations of anatomists of the Ancient Academy of Sciences; and he farther applied to each of the sections, names which have since been considered as generical; viz., Simia, Cercopithecus, Cynocephalus, and Papio, corresponding evidently to the Cercopitheci of Aristotle.

1735-48. Linnæus, like Klein in his critique on the "Systema Naturæ," in 1743, profited but little by Ray's improvements in the three first editions of the "Systema Naturæ," in which the Simiæ reunited with man and the Sloth under the name of Anthropomorpha, are, nevertheless, arranged in a determinate order, according to the length or absence of the tail, and the presence or absence of a beard.

1752. Passing over Hill in 1752, who did nothing, we arrive at the epoch of Brisson, 1756, who separated the Makis into a distinct sub-order, to which he gave the well-contrived name of Prosimii, by attending rigorously to the number of incisive teeth; but Brisson added but little to the four divisions previously established by Ray; to those now

called Macaques, he gave the name of Cricocynocephali.

1766. Linnæus, in his fourth edition of the "Systema Naturæ," adopted the erroneous views of Brisson, but he substituted the term Lemur for Propithecus; and he now used the term Primates, including Bats and Sloths.

1767. The Natural History of Apes," and their systematic distribution, made great progress in the hands of Buffon, and his excellent colleague Daubenton: they introduced the new consideration of the arrangement of the nostrils as being near or distant; and this gave rise to the famous distinction into Apes of the *old* and *new* continents: they introduced, also, into notice, the existence or want of the ischiatic callosities and cheek pouches; so that they distinguished the Simiæ, the Baboons, and the Guenons amongst those Apes with close nostrils, and the Sapajous and Sagouins amongst the Simiæ with nostrils wide apart, by uniting the ancient consideration in respect to the length or absence of the tail; and in that case prehensile, or non-prehensile, to that drawn from the form of muzzle.

These great naturalists had studied with equal care the Makis: and from a consideration of their teeth and limbs, had already subdivided them into Makis, properly so called, and into Tarsiers and Loris.

1771. The labours of Buffon and of Daubenton on the Primates, serve at first as a guide, to a certain number of zoologists, to Pennant, for example, who published some years afterwards his "Systema Quadrupedum;" but if he put the Kainkajou in its wrong place, he was more happy in respect to the Galeopithecus.

1777. Erxleben was the first zoologist who, abandoning the Linnæan system, followed Buffon entirely in his views of the Primates; but he formed genera to which he gave the Latin names of Simia, Papio, Cercopithecus, Cebus, Callithrix, and Lemur; the divisions to which Buffon had given only French names; and in this nomenclature the term Cebus, used by the ancients to an African Ape, was by him employed to designate the Sapajous, which, being exclusively American, were certainly unknown to them.

1778. Perhaps on this account Blumenbach was induced to give the name of Cercopithecus to the American Apes, reserving that of Simia for those of the old continent; but in other respects following Buffon, as approved or altered by Erxleben, still impressed with the views of Linnæus.

1780. Storr, in his great reform of mammalogy, he being the first to apply the natural method to the history of animals, so long sought for in phytology, formed of the Primates the second section of his Manati, giving to them the compound term of *Palmiplantares*; and placing in the section the genera Simia, Prosimia, Procebus, Tarsius, and Lemur, for the Galeopitheci; an innovation which consisted chiefly in the first establishment of these three last genera.

1785. Boddaert imitated chiefly Erxleben, or rather Buffon, for the Simiæ: in respect to the Makis, he separated them into Lemur and Lori, calling them all Quadrumana; a name invented by Buffon, and, although very generally adopted, in reality inexact, that is, not scientific.

1792. Daubenton, in his "Mammalogical System," written by him for the "Methodical Encyclopedia" of Vicq-d'Azyr, followed the same errors as in the "Natural History" of Buffon; but from a consideration of the incisive teeth, he proposed the establishment of the genera Lori and Tarsier, and the substitution of the term Pedimana for that of Quadrumana; and, in fact, less exceptionable, although equally applicable to the Sariques and to the Simiæ.

1795. Messrs. Geoffroy and Cuvier employed this denomination (*Pedimana*) for the first order of Mammals; and, moreover, following the views of Brisson and Daubenton, in respect to the number of the incisive teeth, they proposed establishing the genera Indri, Cucang and Khoyak (Galago), besides those of the Loris and Tarsiers, already proposed by their predecessors. But they continued to comprise under the term Simia all the Apes: the happy approximation of the Galeopithecus to the Lemur was not admitted by them, although proposed by Linnæus and confirmed by Pallas; and they included this genus amongst the Bats, which even Pennant had not done, although he was the real founder of the division of Bats or the Cheiroptera.

1798. Shortly after the publication of this first work, M. G. Cuvier, in his "Tableau de l'Histoire Naturelle des Animaux," imitating Camper in respect to the facial angle, broke through all the natural relations of these animals, and confused the excellent arrangement of Buffon. In fact, in his subdivision of the genus Simia, after the Apes come the Sapajous, then the Guenons, and the Baboons; the Alouates being entirely separated from the Sapajous. The sole advantage resulting from this consideration of the facial angle has been, to place the Magots, although tail-less, with the Macaques, separating them from the Chimpanzée and Orang-Outan; but a serious disadvantage is, that the Pongo came to be placed by the side of the Mandrill, and far removed from the Orang-Outan, of which it is only the adult animal! and although Camper had already designated it the Great Orang-Outan!

This unhappy innovation, resulting from a rigorous employment of the facial angle as a character in the distribution of the Apes, was at first followed by M. De Lacepede, who, nevertheless, imitated Buffon in distinguishing the Sagouins from the Sapajous, and the

Alouates from these latter, but without placing them apart. He followed Daubenton and Geoffroy in the arrangement of the Makis.

M. George Cuvier, in the tables annexed to the first volume of his "Leçons d'Anatomie Comparée," persisted in his system, giving Latin names to the subdivisions by this time raised to the rank of genera. But inadvertently, without doubt, he reversed the names given by Erxleben to the American Apes; calling the Sapajous and the Sagouins, Callithrix, and the Alouates, Cebus.

Audebert, *in spite of the tendency which most men have to follow in the track of those who set themselves up as reformers*, still, in every respect, imitated Buffon in his iconographic work on the Primates, defining the divisions more rigorously. Thus he again placed the Magot with the first species, viz., the Chimpanzée, &c.

1806. Desmarest and some other zoologists followed precisely the system of Cuvier. He added an additional division to the Sapajous with non-prehensile tail, the Sakis, which he named Pithecia.

1811. Thus, after the false impetus given for ten years to the systematic distribution of Apes from a consideration of their facial angle, Illiger again returned to the principles of Buffon and Daubenton, characterising more carefully the subdivisions of Audebert, by a minute examination, not only of the number of teeth but also of their form, and the number of tubercles of the molar teeth, which he showed to be five in the last inferior molar in certain species. To Illiger, also, we owe the employment of the consideration of the existence or absence of a thumb on the hands of the species of the old continent, as M. M. Geoffroy had just done, a short time previously, for those of the new continent. He attended also, in a special manner, to the existence or absence of ischiatic callosities; and from this exaggerated, perhaps, the number of generic subdivisions: but the greatest error committed by Illiger, was his altering so extensively the previous nomenclature, forgetful of what even Linnæus himself had admitted, viz., that *greater inconvenience resulted from the change of a term, though bad, for a better one, not generally received.*

Notwithstanding all this, the distribution of the Quadrumana has undergone but slight modifications since the publication of Illiger's work; and these modifications are limited to a circumscribing of the genera in respect to the number of species.

1816. Thus in my "Prodrome d'une Nouvelle Distribution du Regne Animal," published in 1816, when introducing new considerations, considered, by me at least, superior to those drawn from the digital and dentar systems hitherto predominant, I was led to consider the first degree of organisation of Mammals, or the Primates, as including not only the Apes of both continents, which I called *Pitheci* and *Pithecia*; but also to include among the Makis the Galeopitheci and the Aye-Aye, which Messrs. Geoffroy and Cuvier had removed, and to join to this order, as an anomaly still more remarkable, the Sloths, viewed, in fact, by several ancient zoologists, as Apes.

Although, in the Mammalogical system of Oken (1816), there is often a sort of confusion somewhat difficult to clear up, we may observe, that in his first order, which, however, he makes the last, following the method of Hill and M. de Lamarck, who reversed the animal series, he comprises, for some unknown reason, the Damans mingled with the Sloths; the Marsupialia with Rodentia and Carnivora. The two first little groups or cohorts include, the one, the Galeopitheci and the Aye-Aye with the Lemurs of Linnæus; and the second, the Apes, subdivided into Cebus or Apes of the new continent; Cercopithecus or Apes of the old continent having a tail, (although, by inadvertence without doubt, he arranged with them the Magot, which has no trace of a tail,) and into Simia, comprising, with the Orang-Outan, the Chimpanzée, Gibbons, and the Simia *Sylvanus*, understood at that period to be the young of the Magot. So that, in fact, Mr. Oken, on his part, had endeavoured to circumscribe the order pretty much as we ourselves had done.

1817. In the first edition of his "Regne Animal," even George Cuvier had returned to the method of Buffon, *taking no further notice of the facial angle!* although he still placed the Pongo or adult Orang after the Mandrill: in other respects he followed pretty nearly the methodical arrangement of the Quadrumana, published by M. Geoffroy in the "Annales du Museum," and which differed from that of Illiger only in *names*. Only, *as might very readily be supposed*, the innovations suggested by me were not accepted; and the Aye-Aye remains amongst the Rodents by the side of the Squirrel, the Galeopitheci amongst the Cheiroptera (although the hands are *not* formed like wings), and the Sloths with the Edentata!

In spite of this determination on the part of M. Cuvier to abandon, *only by halves*, his original system, returning to the method of Buffon perfected by Illiger, and adopted pretty nearly by Mr. Goldfuss and by M. l'Abbé Ranzani, modern geologists appear disposed to accept of some of the alterations, at least, proposed by me. 1st, By admitting the Pongo to be the adult male of the Orang-Outan, and comprising afterwards definitively the Aye-Aye and Galeopithecus amongst the Primates. A greater difficulty existed in regard to the Sloths; and Wagler and Oken, so far as I know, have alone adopted the proposed innovation.

Since the publication of the first edition, and even of the *second*, of Cuvier's "Regne

Animal," in which the Pongo, for the first time, is in its proper place, the number of species of the Quadrumana has been much increased, although, perhaps, not absolutely so; and amongst these species, some authors have filled up the vacuum in sections already established; and even M. F. Cuvier, whose work on the Mammalia of the Menagerie has often furnished interesting elements to science, imagined that he had discovered the type of a genus which he named *Semnopithecus*, by applying to the Guenons the consideration of the fifth tubercle of the last inferior molar which Illiger had employed to characterise the Cynocephali.

The subsequent labours of Spix, Isidore Geoffroy, Bennett, and Jourdan, are scarcely sufficiently characteristic to be admitted. However this may be, in the actual state of our knowledge of the Primates, the result of all previous inquiries may be summed up as follows.

Aristotle established the division of Apes, from a consideration of the tail and of the muzzle, and he also laid the foundation of their nomenclature.

Gesner showed how the new species, discovered in America, might be introduced into the system of Aristotle; he was imitated and improved on by Ray towards the end of the seventeenth century.

Brisson, in 1756, made an important step, when, from a consideration of the incisive dentar system, he subdivided the order into two sub-orders—Apes (*Simii*) and Makis (*Prosimii*).

Buffon and Daubenton, in 1767, made a still more important step, not only by adopting this division, at the same time doubling or trebling the number of species, but by introducing, in order to separate them into little groups, the consideration of the form of the nostrils, the ischiatic callosities, cheek pouches, and prehensile tail, and, finally, the geographical distribution.

In this they were imitated, using the Linnæan nomenclature, by Erxleben in 1777, and Audebert in 1800, in spite of the error into which the too rigorous application of the consideration of the facial angle had, for a time, led astray Messrs. Cuvier and Geoffroy.

After a somewhat short era of imitation in France, although much more lengthened than in other countries, Illiger, in 1811, returning to the views of Buffon, adds a new consideration, that of the *number* of molar teeth and of their tubercles, so that, by employing more carefully all the considerations enumerated above, and which had been used before his day, and following E. Geoffroy in adopting, as a character, the proportional length of the thumb, there resulted a system of pithecology almost complete; to which, since that period, has been added the reintroduction, on my part, of certain genera, and a more complete distinction as to species, in perfecting which, M. F. Cuvier's work on the Mammalia of the Menagerie, has not a little contributed.

So that, at present, zoologists are nearly agreed:—

1st, In respect to the position of this order at the head of Mammals, and, consequently, as the commencement of the animal series.

2nd, In respect to its limitation, with the exception, perhaps, of the Sloths, or *Bradypus*.

3rd, In respect to its arrangement, commencing with the Chimpanzée, as nearest to Man; and terminating with the Galeopithecus, as most allied to Bats, which commence the Secundates.

4th, In respect to the limitation of the principal groups, or interior distribution of the order, with the exception, however, of the nomenclature.

COURSE OF LECTURES
ON THE
DISEASES OF THE EYE,
Delivered in 1839-40,
AT THE
ROYAL SCHOOL OF ANATOMY AND MEDICINE,
MANCHESTER,
By JOHN WALKER, Esq., Surgeon.

LECTURE XI.

STAPHYLOMA CORNEÆ.

I HAVE before pointed out that, in the progress of the more violent inflammatory affections of the eye, and particularly such as are attended with ulceration and sloughing of the cornea, sometimes a considerable alteration becomes observable in the figure and appearance of that structure,—that it is often protruded between the palpebræ in the form of an opaque tumour, causing not only a highly disagreeable appearance, but likewise a considerable amount of irritation. This condition is named *staphyloma*, because the diseased structure bears some resemblance to a grape.

The figure of the projecting part is apt to vary, but it is always more or less rounded, being in some cases of the form of the healthy cornea, but more prominent; in others, it tapers off to a point; and in others, again, several small irregular projections are noticed. Hence the different terms *spherical staphyloma*, *conical staphyloma*, and *staphyloma racemosum*; the last term implying a condition somewhat resembling a cluster of small grapes. According to the extent to which the cornea is implicated, it is also named *total* or *partial staphyloma*.

Conical staphyloma is usually regarded as the result of a large penetrating ulcer or slough, which has occupied the centre of the cornea; whilst the spherical variety is thought to be produced by a general yield-

ing of its texture, with ultimate thickening and consolidation. In staphyloma racemosum, the cornea has usually been ulcerated at several points, and in many instances has sloughed off, so as to admit of the protrusion of the whole or portions of the iris, which becomes covered by a thin semi-transparent membrane.

During the formation of a spherical staphyloma, there has generally been long-continued inflammation of the textures of the cornea. I have already explained that in cases of corneitis, there is frequently a considerable enlargement of the anterior chamber, and a corresponding projection of the cornea itself. This variety of staphyloma appears to be a more aggravated degree of the same affection, attended at first with a certain amount of attenuation, and sometimes ulceration, or sloughing of the cornea. After a time, a considerable deposition into its lamellæ results, its texture becomes thickened; and thus, from the operation of these various causes, the cornea becomes much altered in size and general appearance.

In many cases of staphyloma, the whole of the textures of the globe appear to have been subject to severe and long-continued inflammation. In such instances, both the sclerotica and cornea are found to be attenuated, displaying a bluish colour, owing to the choroid and iris being seen through them; and the sclerotica in particular often presents an irregular bulging appearance at various points. The whole eye in this case is often considerably enlarged, and assumes much of the character of hydrophthalmia; the crystalline humour is either discharged, or disorganised; the interior of the globe is occupied by a homogeneous, watery fluid; the anterior chamber is obliterated; and the iris is usually in contact with the cornea.

The size to which a staphylomatous projection arrives is exceedingly variable. In some instances, the cornea differs but little from its natural size; in others, it is so large as to prevent the closure of the lids, and it is then very frequently a source of considerable irritation. The conical staphyloma rarely proceeds to so great a size as the spherical. In the conical variety, the sclerotica and cornea seem to be frequently amalgamated; the former constituting the base, the latter the apex of the tumour; and there is sometimes but little difference in the colour or appearance of the two textures; whereas, in the spherical, there is generally a well-marked distinction between them.

The staphyloma that results after a complete slough of the cornea (staphyloma racemosum, or staphyloma iridis), is usually not of very large dimensions. It consists of little more than the iris pushed forward and covered by a thin pellicle, which is either the membrane of the aqueous humour, or a new substance, which has been named *pseudo-cornea*. Mr. Wharton Jones, in an interesting essay on this subject, conceives this to be the mode in which each variety of staphyloma is formed; and that in every case "the tissue composing a staphyloma is not degenerated and opaque cornea, but a new tissue, of the nature of the tissue of a cicatrice, developed on the anterior surface of the iris exposed by the destruction of the cornea itself." I quite agree with Mr. Jones, that this variety of staphyloma is formed in the manner he has pointed out; but I do not think with him that the other varieties are similarly formed. I have had many opportunities of examining portions of staphylomatous tumours after their removal by operation, and have usually found them to consist of "degenerated and opaque cornea," with a fragment of iris adhering.

In cases of total staphyloma, there is usually complete loss of vision. In the most favourable cases, the patient can barely discern the shadows or outlines of objects presented to his view; but in such as are only partial, it often happens that vision is not much impaired. If, for example, the staphyloma projects from the lower portion of the cornea (its most frequent site), it may be that the upper portion continues transparent, thereby allowing the light to pass through the pupillary aperture. In such a case, vision will be but slightly affected. In others, however, notwithstanding that the upper part of the cornea retains its transparency, the pupil may be obscured by being drawn downwards behind the opaque projecting part, and then of course vision will be lost, or nearly so.

Staphyloma is frequently attended with a considerable degree of irritation for some time after its formation, which in some instances appears to be increased by the friction of the tumour against the margins of the lids, as shown by the vascularity and tendency to ulceration which it so commonly exhibits. After the lapse of a certain time, however, it occasionally happens that all irritation subsides, and the patient becomes indifferent to its presence.

The *treatment* of staphyloma must be regulated according to the amount of irritation produced, the deformity which has resulted, and the risk of the morbid action extending to the sound eye, when only one is affected.

In some instances, indeed, a change is effected in the size of the tumour by a natural process. When the tumour has become exceedingly large, and much distended with aqueous fluid, the most attenuated part ulcerates, the fluid contents are partially evacuated, and the whole globe is much reduced in size, and that permanently. In others, a merely temporary

change of this kind is effected,—a small fistulous aperture, not so large as a pin's head, is formed near the apex of the tumour, which allows a watery fluid to escape. After the eye has been relieved in this way, the aperture closes, to be again perforated, after a time, when the distension becomes considerable; a circumstance that would seem to indicate in these cases a disposition to hydrophthalmia.

Frequently a staphyloma, when formed, remains stationary, and produces little or no inconvenience; in this event, the question is one of personal appearance, and the patient must decide for himself, whether or not he will submit to such measures as are calculated to remove the projecting surface. In the case of children, it must be left to the decision of the parents or friends.

When much irritation is experienced, the patient is usually anxious for the removal of the tumour; and in the case of children it is desirable to recommend this operation. This is always to be advised when the disease is confined to one eye, because there is then reason to apprehend its extension to the other.

Now, it is a clearly established fact, that when there is any morbid process going on in one of these organs, there is always a tendency in the other to participate in the same; and it is remarkable that precisely the same texture is almost certain to be attacked in the eye, which is secondarily affected, as was the chief seat of disease in that in which the mischief originated. This is the case with almost every form of ophthalmic disease: we see it in the catarrhal and purulent ophthalmia; in the ophthalmia of strumous subjects; in inflammatory affections of the cornea, sclerotica, and iris; in cataract, amaurosis, and even after injuries of the different textures of the organ. True, this is not invariably the case; but it happens so frequently, that we may nearly always fear that if one eye be affected with disease, it will be communicated to the other. It becomes important, then, to bear this in mind, and to recommend the removal of a source of irritation which may ultimately lead to the extinction of vision, and especially if the patient complain of weakness and irritability of the other eye. When both eyes are affected with total staphyloma, attention must then be directed to the amount of irritation produced by the projecting portion of the cornea, or to the resulting deformity; and an operation is to be performed if either of these conditions should indicate its propriety.

The operation to be recommended for the removal of staphyloma, is the excision of the projecting part of the tumour. Now this operation is one of considerable importance to the young surgeon; and I venture to say, that he who can perform it with ease and dexterity, is well qualified to enter upon that most difficult of all operations on the eye, the extraction of cataract. On this account I would recommend you to pay most particular attention to the details of the operation for staphyloma, and never to shrink from its performance when a proper opportunity presents. The habit of frequently performing it will be the best mode of preparing you for the higher duties of the ophthalmic surgeon; and you may enter upon it without fear of doing mischief, since the eye is irreparably lost for the purposes of vision; but still it should be executed with as much care as if you were likely to restore the patient to sight, and always, as I have said, with a view to qualifying yourselves for the efficient performance of the operation of extraction.

The patient should be placed in the same position as for extraction, either in a chair or on a sofa. An assistant is to secure one of the lids, the other being controlled by the operator, who sits either before or behind the patient, according to the position of the latter. It is well to practice both modes indifferently, and to acquire the habit of employing either hand. An incision is first made into the tumour, by pushing a cataract knife, or a sharp bistoury, through the centre of the cornea and near its base, perforating it first at the temporal and then at the nasal angle; and afterwards cutting out either directly downwards or upwards, as in the operation for extraction of cataract. There is generally a gush of a clear, watery fluid, and also an escape of the lens when present, which succeeds the completion of this stage of the operation, and the eye becomes flattened and sunken in appearance. The flap of the cornea is then laid hold of with the forceps, and snipped off with the curved scissors; the latter being at the same time carried around the remaining attached portion of the cornea, near to its margin, when the operation is completed.

It is a disputed point as to the size of the portion of cornea to be removed in this operation. The axiom of Celsus is strongly urged by some practitioners, to remove only a small portion, *ad lenticulæ magnitudinem excindere*. Scarpa states, that "the practice of removing the staphyloma circularly at its base, and the still greater evils which are produced by the circular division of this tumour, including the sclerotica, invariably results in violent inflammation of the eye-ball and eye-lids, most acute pain in the head, watchfulness, convulsions, copious suppuration, and sometimes gangrene of the eye and eyelids."

Perhaps the general principle may be correct, that the less the portion of the staphylomatous mass which is removed, and the less will be the severity of the symptoms which result. But that the violent symptoms enumerated by Scarpa invariably, or even frequently, succeed to the removal of

the entire cornea, or, indeed, of a portion of the sclerotica, is not in accordance with my experience. I have never seen convulsions occur, except in infants, and in them but rarely, but quite as often when only a very small portion of the tumour has been removed. Inflammation and suppuration of the eye-ball do occasionally result, but they are by no means frequently found to succeed to this operation.

The principal objection to the removal of so small a portion of the cornea, as recommended by Celsus, I have found to be, that it frequently fails in producing the desired effect. In two instances in which I tried this plan purposely, such at least was the result. In each I removed but a small portion, merely the most projecting point, but still sufficient to allow of the complete discharge of the humours; and in each the wound healed over in a short time, when the size of the tumour was but very slightly diminished. In one, a young child, I repeated the operation, and removed a much larger portion with complete success, and without giving rise to any more suffering than on the previous occasion; but, in the other, a boy of about 14 years of age, I was unable to persuade him to submit to the repetition of an operation which had previously failed. I have since, therefore, removed the tumour at, or very near to, the base of the cornea; a proceeding which never fails to cause a considerable shrinking of the globe, and so to remove the irritation.

That the Celsian method of operating cannot be depended upon by itself, is, indeed, virtually admitted by Scarpa, inasmuch as he further recommends, in order to ensure a sufficient amount of irritation, that the organ should be left "for a long time uncovered and exposed to the air, and that the wound should be (afterwards) enlarged by removing another circular portion, and thus facilitating the discharge of the humours and the admission of the air to the cavity of the eye. The same object (he continues) may be gained by introducing into the eye-ball, through the circular wound of the cornea, a small fold of linen, which is removed as soon as a sufficient degree of inflammation and suppuration has been excited in it."

Such proceedings as are here advised by Scarpa, appear to me far more objectionable, and not less likely to be followed by the disagreeable symptoms which he is desirous of obviating, as is the operation of removing a larger portion of the tumour in the first instance. But, after all, perhaps the extent of projecting surface to be removed should be determined by the effect intended to be produced. If the surgeon wishes to remove so much as to destroy all danger of irritation being communicated to the sound organ, or to render available the use of an artificial eye, then a considerable portion must be removed; if, on the other hand, a slight reduction only of the size of the globe be contemplated, as in cases where the deformity is but trifling, then the removal of a small portion will be sufficient.

Some surgeons advise the passing of a hook, or of a ligature, through the substance of the tumour, in order to give greater command over it during the operation. Such a proceeding is perfectly unnecessary, and as it is calculated to add to the suffering of the patient, it ought never to be resorted to.

The after-treatment, in general, should be very simple. The application of two or three strips of adhesive plaster, passing from the brow over the centre of the lids on to the cheek, is a very suitable dressing, and tends to prevent the winking motions of the lids from irritating the wounded surface of the globe. The same end, however, will be attained by the use of a compress placed over the closed lids, and secured by means of a roller, or light bandage, placed around the head. If severe inflammatory symptoms come on, as indicated by pain, tension, and swelling of the globe and of the lids, the application of leeches may be useful; and these should be followed by the use of warm fomentations and poultices. Opium may also be administered internally; and it is a good practice to prescribe a large dose, to be taken immediately after the operation, with a view of preventing severe reaction.

In the course of a few days, new matter will be found deposited in the site of the wound, which gradually becomes organised, and bears some resemblance to the texture removed. A considerable degree of collapse of the globe usually succeeds to the operation; in some cases to such an extent, as no longer to afford a support to the concave surface of the lids, which therefore have a flattened, or depressed, and rather unsightly appearance. In this event, the only remedy is to obtain an artificial eye, which supports the lids, and is capable of being moved about in harmony with the sound one; or, when the patient cannot afford this luxury, he must satisfy himself with wearing a patch over the front of the orbit.

When any unfavourable symptoms are witnessed subsequently, I believe they depend more on the irritable condition of the patient, than on the nature of the operation. Generally speaking, but little trouble is experienced: in most cases, the patient is able to walk home after the operation, and suffers but little pain or inconvenience. But it occasionally happens that much suffering results; violent neuralgic pain is experienced, considerable hæmorrhage follows, and now and then active inflammation of the globe succeeds. The following is one of the most severe and troublesome cases of this description I remember to have witnessed:—J. B., a delicate-looking man, about 30 years of age, from the country, was admitted, on account of a very large staphy-

loma affecting one eye, which was of a spheroidal shape, and projected considerably between the palpebral margins, so as to occasion great irritation. There was no appearance of ulceration, the tumour presenting a dense, firm, and opaque surface; and a very large vessel was seen to proceed from the inner canthus, and ramify over its projecting front. He was very desirous that something should be done to remove the constant annoyance which was caused by its presence. The tumour was therefore excised at the point of junction between the sclerotica and cornea, in the manner before explained. He suffered an unusual amount of pain during and immediately after the operation, so that it was deemed advisable that he should remain in the hospital. He was removed to bed, and had forty drops of laudanum administered, when he became easier in a short time. In the course of two or three hours, however, I was sent for in consequence of hæmorrhage having occurred. I found the eye-ball, which had completely subsided after the operation, distended as large or larger than before, with coagulated blood, and presenting a most frightful appearance, looking very much like a case of fungous hæmatodes in the last stage. The blood was constantly dropping from the eye on to the floor, where there was also a coagulum of very large size. I simply directed cold wet cloths to be laid around and upon the surface of the lids; a proceeding which had the effect of speedily restraining and ultimately stopping the hæmorrhage. The bleeding probably relieved the pain, and tended to keep down inflammation, as he did not complain much afterwards. The eye-ball continued swollen, and completely distended with blood, for many days; but it gradually subsided, owing to the separation of the coagulum, and ultimately sunk back into the orbit; the patient being effectually relieved.

Other modes of treating staphyloma have likewise been resorted to. Mr. Wardrop, observing that in some cases, as before pointed out, a fistulous aperture is formed in the projecting part of the tumour, has recommended this process to be imitated by puncturing it frequently with a needle: in one instance, he performed this operation sixteen times, and effected a cure, vision being restored. It is evident, however, that this treatment can only be successful in the most favourable cases, where the staphyloma is but partial, and unattended with that extensive disorganisation which accompanies the severer grades of the disease.

Some surgeons employ a ligature for the cure of staphyloma: they perforate the centre of the tumour with a needle armed with double threads; one of which is tied firmly round the upper half of the tumour, the other around its lower half. Others pass a seton through the substance of the tumour, which is kept there for some time. Neither of these, however, are means to be recommended, since they often produce a good deal of irritation, without materially benefiting the case, and are much inferior, as means of cure, to the removal of the tumour by excision.

In cases of partial staphyloma, the occasional application of the nitrate of silver, or of the caustic potass, to the projecting portion of the cornea, is often followed by such a degree of thickening and consolidation of the surface as to prevent ulceration, and in some cases appears to produce a certain amount of contraction or diminution of its bulk. In those cases of partial staphyloma, in which the pupil is obscured behind the opaque projecting portion of the cornea, restoration of vision may sometimes be effected by enlarging the pupil, as by puncturing the sound part of the cornea, and drawing out a small piece of the iris.

In staphyloma racemosum, if the portion or portions of iris that protrude be very large, it is best to excise them with the curved scissors; if smaller, the application of the caustic pencil will cause them to recede, or slough off.

CONICAL CORNEA.

Sometimes the cornea is found to project at its central portion, without any or with a very slight degree of accompanying opacity. This state is termed *staphyloma pellucidum conicum*, or, more commonly, *conical cornea*. The alteration in the figure and transparency of the cornea, however, in this case, bears no proportion to what is observed in the proper staphyloma. Indeed, on a superficial view, it is very liable to be completely overlooked; and many, even professional persons, might examine the eye of an individual thus affected, particularly when the morbid change is not fully developed, without discovering its existence. It is only on looking at the eye laterally that it becomes very apparent; but it is then perceived that the centre of the cornea presents a decided conical projection. When examined in front, the disease being somewhat advanced, there is usually a brilliant star of light observed at the end of the cone; a phenomenon which, in some cases, is very striking.

Occasionally, the alteration of figure is the only unnatural appearance observed; but, sometimes, and particularly after this change has existed a long while, the apex of the cone becomes decidedly opaque. Most commonly, this is the only portion of the cornea that loses its transparency; but we, now and then, meet with instances in which opaque spots or streaks are observed at several points. In one case, now under treatment, the individual being a schoolmaster, about 30 years of age, the change of form has apparently resulted from chronic ophthalmia, there being increased vascula-

rity of the conjunctiva, with opaque deposits scattered irregularly over the surface of the cornea in both eyes, the conical projection, however, being confined to one.

This change from the hemispherical to the conical figure of the cornea is found materially to interfere with the perfection of sight. In the most favourable cases, the eye is rendered exceedingly myopic, so that the patient is obliged to hold any object which he is desirous of examining close to him. If opacity be superadded to the change of form, then vision becomes still more imperfect, so as, in some cases, to prevent the patient from following any useful employment. In addition to indistinctness of sight, objects frequently appear to be multiplied. This last condition, it has been stated by Sir David Brewster, is caused by some irregularities on the surface of the cornea, which are analogous in their effects to the divisions in the common multiplying glass.

Conical cornea is, in all probability, directly induced by a process of absorption or attenuation of the central portion of the cornea (similar to that which takes place in the sclerotica), which yields to the pressure of the aqueous humour. In one case, which occurred in the practice of my colleague, Mr. Windsor, to whom I am indebted for the opportunity of an examination *post-mortem*, the cornea generally was found very much thinner than natural, and in the centre especially so. Dr. Jaeger relates a case in which the circumference of the cornea was considerably thickened, but the projecting point was very much thinner than usual. Mr. Middlemore likewise examined the cornea in a similar case, and found the centre much attenuated, while the circumference retained its normal condition.

Of the exciting causes of this affection, but little can be said. In the majority of cases, there is no marked inflammatory action, either accompanying or preceding the change, in the figure of the cornea; but, as there is so great a tendency to opacity in most cases, and actual inflammation existing in a few, it is not unlikely that there may be disordered vascular action generally present.

Of the treatment of conical cornea, I am not able to give you any very satisfactory information. Mr. Travers speaks favourably of the effects of blisters, tonics, cold bathing, and general constitutional treatment. Mr. Guthrie recommends the frequent exhibition of emetics, which he states to have been useful in a few instances. Unfortunately, we almost invariably find that, when we put any of these remedies to the test of experience, they are of little or no value. In some instances, if the patient be made to look through a small hole in a card, or other substance, placed before the eye, vision is considerably improved. Double concave glasses are also occasionally useful, but they are not so generally serviceable as might have been supposed.

When this alteration in the form of the cornea is confined to one eye, it is not of so much importance, and individuals will seldom persevere with the use of such remedies as are most likely to be beneficial; but, when both are thus affected, patients are often desirous that something should be done, and accordingly such remedies as are recommended will be sedulously employed. If the means previously mentioned (combined with the frequent application of stimulants, such as sulphate of copper in substance or solution, to the eye) fail in benefiting the patient, it may then be desirable to try the effect of some operative proceedings that have been suggested.

Now, it has been found that the application of belladonna to the eye has been serviceable, by dilating the pupil, and thus allowing the rays which pass through the circumference of the cornea to enter the posterior chamber. The observance of this fact, probably, has led some surgeons, as Mr. Middlemore states, to perform an operation with the view of bringing the pupil from opposite the central conical portion to the margin of the cornea. This will be best effected by making a small aperture with a cataract knife through the margin of the cornea, at its lower and outer portion; a fine hook is then to be introduced into the opening, and a small portion of the iris drawn out and cut off with scissors. In short, the same operation should be resorted to as for the formation of an artificial pupil, in cases of central opacity of the cornea.

Sir William Adams has likewise reported cases of conical cornea which were materially benefited by the removal of the crystalline lens. In one of the cases, the affection was complicated with cataract, and, on the removal of the latter, the patient regained useful vision. In another, in which the cornea alone was affected, the lens was removed by absorption, and the patient was enabled to read the smallest-sized print without the aid of a glass. The object of this operation is to diminish the excessive refraction, by removing one of the principal agents concerned in that process.

In those cases in which no useful vision remains, it would be quite proper to have recourse to one or other of these operations, since, as yet, there appears to be no known method of restoring the original form of the cornea. The operation of removing a portion of the iris, so as to bring the pupil to the margin of the cornea, being the more simple, I should prefer trying the first, and, if no sufficient benefit were found to result, I should afterwards remove the lens, either by extraction or by procuring its absorption. It will be advisable, however, not to hold out too great prospects of success, from the performance of either of these operations, as there is some

doubt if the benefit would be so considerable as we might be led to expect from the statements of authors.

Hypertrophy of the Cornea.—It occasionally happens that the cornea becomes much enlarged, and very prominent generally, and therefore without undergoing any particular change of form,—a condition which has been termed *staphyloma pellucidum sphericum*. It is usually an accompaniment of hydrophthalmia, of which I shall say more hereafter.

Atrophy.—More frequently a change of an opposite kind is noticed, the cornea becoming exceedingly diminished in size and flattened. This condition is often noticed after severe injuries, or long-continued inflammatory action, terminating in greater or less diminution of the size of the globe generally.

Malformations.—I have also met with a few cases of the last description that were congenital, in which there was likewise a general deficiency of the globe, the result either of disease or of arrest of growth; this condition is usually accompanied with cataract, or amaurosis, or both, and is commonly irremediable. Cases are also mentioned in which the cornea was overlapped by the sclerotica, to such an extent as to leave only a very small transparent portion opposite the pupil.

Fungous Growths are sometimes observed to arise from the surface of the cornea: they do not materially differ from those of the conjunctiva, and are to be treated in the same manner, viz., by excision.

Injuries of the Cornea I have before alluded to, when speaking of those of the conjunctiva. Inflammation, occurring after injuries, is to be combated in the manner before explained.

Wounds of the cornea, if effected with sharp instruments, and unattended with much contusion, often heal rapidly. Thus, the incision made in extracting a cataract is often healed in less than twenty-four hours; and wounds of this description, which do not penetrate the anterior chamber, are of little moment, except that they are apt to leave a slight degree of opacity. If the anterior chamber be perforated by the incision, the aqueous humour will usually have been evacuated, and occasionally it will happen that a portion of the iris is entangled in the wound. Gentle friction, employed through the lid, or the application of bright light, will generally cause it to recede, if it have not already become adherent. I have several times known instances of portions of the iris becoming adherent to the internal surface of the cornea in this way, which have been liberated without interference, and after an interval of many days. In these cases, when the iris is adherent at a point near to the centre of the cornea, we are advised, as in cases of ulceration, to apply the extract of belladonna, with a view of causing the retraction of the strangulated portion. I imagine, however, that when this result follows the use of that substance, it would be effected independently of its application, by the natural motions of the iris.

When a wound of the cornea has been caused by a sharp instrument, it will usually heal, as I have said, without difficulty; and all the treatment that is necessary in such a case is to keep the eyelids as nearly as possible in a state of repose, which may be effected either by strapping them down with adhesive plaster, or applying a compress and bandage over them; the latter being, also, carried lightly around the head. If blunt instruments have caused the mischief, particularly when accompanied with much force, it often happens that considerable ulceration takes place, and sometimes sloughing is produced. When either of these processes occurs, it is best to apply the nitrate of silver to the injured surface, with a view to induce a more healthy action.

Sometimes fragments of steel, of considerable size, and other substances, such as thorns, splinters, &c., are found sticking into the substance of the cornea; and they will, in some cases, even penetrate the anterior chamber. When they can be removed, it is better that this should be done, which may usually be effected with the aid of a small forceps. In some instances it may be necessary to employ a lancet or cornea-knife, in order to liberate these foreign matters, particularly when they are embedded in the substance of the cornea.

LECTURES

ON THE

ORGANS OF REPRODUCTION IN THE ANIMAL KINGDOM.

DELIVERED IN THE ROYAL COLLEGE OF SURGEONS, LONDON.

By Professor Owen, F.R.S.

LECTURE XI.—May 14, 1840.

If a student of natural history were, in the course of his readings, to come to the description of a tribe of molluscous animals, cemented immoveably for life to some foreign substance; possessing distinct male and female organs on different individuals; fecundating, by means of the dispersion of the fertilising fluid through the circumambient medium, like diœcious plants: then, to find that the ova extruded from the ovarium were received into the cavity between the gills, which served the office of a mar-

supial pouch; that within this receptacle their development was completed; that during their development they produced from their surface thousands of minute filamentary organs, by which they were enabled slowly to revolve upon their own axis within the albuminous fluid of the chorion, and then to perform a series of elliptical gyrations, like the planets in their spheres; that they afterwards burst through the chorion; threw off their filamentary cilia; secreted a thick calcareous covering of defence around their exposed bodies, and fixed themselves permanently for the remainder of their lives;—surely he could not consider this the least extraordinary and interesting of the phenomena displayed by Nature in her wondrous works. And if, again, the anatomist were to examine the structures of an animal, possessed of a perfect ovarium, oviduct, prostatic cæca, clitoris in the form of a calcareous spiculum, and a preputial sheath; and on the same individual should find, a well-formed testis, vas deferens, vesiculæ seminales, and a largely-developed intromittent organ; surely he would consider such an animal as remarkable for the complication and perfection of its organisation; combining in a single body, without derangement of the great intention of its being, or detraction from the comforts of its existence, the peculiar attributes of two opposite sexes: yet such is the structure of the animals that were considered in the last lecture.

The Molluscous Bivalves were seen to be dicœcious, possessing distinct sexual organs on different individuals. The organs themselves, being however so similar in external form and structure as to require the aid of the microscope in distinguishing by their contents their real nature. The genus Cyclas is the only exception to the Dicœcious character, possessing on the same individual an hermaphrodite organisation.

The Acephalous Tunicata were remarkable for the existence of numerous yolks in the same ovum. In the genus Salpa the ovum contains only a single yolk; the generative organs are distinct upon the same individual, but of the most simple structure. The solitary Tunicata, floating in the tropical seas, present a remarkable condition of animal life; one in which many phenomena are performed by the same action, viz., by the alternate contraction and expansion of the external tunic. By this movement, streams of sea-water are drawn within the tunic, and pass in currents through the interior in a constant direction; ærating the branchiæ, bearing numerous minute animals which serve as food, and transmitting the ova into the circumambient medium. The ova are developed in a large vesicular ovarium, and the young salpæ are extruded from the case connected with each other, and forming long chain-like strings.

In the Pulmonary Gasteropoda the sexes are combined on the same individual as in the common Slug, the garden Snail, &c. All the marine Gasteropoda are dicœcious. In the Patella, belonging to the division Cyclo-Gangliata of Cuvier, that physiologist could discover no difference between the male and female organs, which he therefore considered to be cryptandrous. But more recent observation has proved that there cannot be such a state in the animal kingdom, and that these creatures are distinctly dicœcious.

The Pectinibranchiata, the animals residing in the many beautiful specimens of turbinated shells, known to conchologists, are all clearly dicœcious. The testis is situated in the upper part of the spire of the shell, the position of the ovary in the female; the vas deferens is long and spiral, and passes through the middle of an enormous intromittent organ, to terminate at its extremity. In the Trochus, another genus of Pectinibranchiata, the vas deferens terminates at the base of the penis, which is solid and muscular, and grooved along its inferior part. In the Carinaria, which is principally naked, having a thin and delicate shell for the protection of the viscera, the penis is bifid, as well as being grooved.

The female organs of the Pectinibranchiata are all similar, and may be illustrated by their disposition in the Paludina Vivifera. The ovarium is situated upon the dorsal surface of the caudal portion of the animal, deeply within the spire of the shell; the oviduct dilates at the base of the branchiæ before opening upon the surface. This dilatation serves for the complete development of the ova, previously to their expulsion from the parent as young. But, in most instances, the ova are extruded in their undeveloped form; in which case there are large laminated nidamental glands, which surround them with an exterior investment previously to their exclusion. Some of the ova, with their nidamental coverings, are expelled singly; others are variously and curiously grouped; the ovum of the Buccinum has the form of a flattened cyst. In the genus Strombus the ova are pushed out by successive contractions of the oviduct; but a portion of the nidamental secretion remaining between each, and connecting them together, gives rise to the formation of a camerated nidus. In the Nattica the nidus is cup-shaped, and in the Trochus arranged like a honeycomb.

The development of the ova of the Gasteropodous Mollusca has been traced, with the greatest care, by MM. Dumortier and Jacquemann, in two fresh-water species with transparent shells. The former naturalist has figured the successive changes in

the Lymnæus through all its stages, and the latter equally carefully in the Planorbis. The ova of the Planorbis are aggregated into masses, having the form of a shield; they consist of a chorion inclosing albumen, a vitelline sac and vitellus, and a germinal vesicle and germinal spot. At the end of the first, or the commencement of the second day, four globular vesicles are perceived; the vesicles increasing in size, a slight movement in one direction is observed in the albuminous fluid surrounding the vitellus. This movement is occasioned by the development of vibratile cilia, which are soon apparent to the eye, and produce a gradual revolution of the entire vitellus. Shortly afterwards, another movement of the entire ovum, in elliptical circles, is apparent; slow at first, but becoming more rapid by degrees; and by the tenth or twelfth day true muscular contractions occur. On the fourth day a clear whitish fluid, consisting of regularly-formed granules, and resembling the cambium of the Spider's ovum, is observed to occupy one part of the vitelline vesicle, and gradually to push aside the subdivided vitellus. The cambium-like portion of the ovum then becomes protruded, and shortly bifurcates into two portions, which represent the head and the foot of the animal. Then a second protrusion takes place from the upper part of the vitellus, and gives origin to the respiratory cavity; it is upon this part that the vibratile cilia remain longest, and continue to be most active. The tentacula are then produced from the head, the pigment of the eye-specks appears, and the foot is completed. Two of the granules dilate, assume a vesicular form, and become the heart, from and towards which the vascular currents are seen to be directed. A pellicular shell is also produced, and the intestinal canal closes upon the vitelline substance on the back of the animal. At about the fourteenth or fifteenth day the corium is ruptured, and the young escapes.

In the Lymnæus and in the other gasteropods the changes are essentially the same. It is remarkable that in all gasteropoda a shell should be formed previously to the young quitting the chorion, even in genera, where there is no trace of such a covering in the adult. Sarres, a Norwegian naturalist, observed a perfect shell on the embryos of the Triton and Doris, which, like the shell of the Nautilus, is, after a few days, cast off, and there is no such protection in the adult. In the Slug, the shell remains arrested at the embryo form for the rest of life, and protects the heart only. At about the latter end of January and the beginning of February, the phenomena of oviposition may be observed in the Triton and Doris, and they may be kept by frequently changing the sea-water through all their changes.

Cephalopoda.—The highest Mollusca are all diœcious, as was long since pointed out by Aristotle, who had observed these creatures most attentively. Of the simpler Cephalopoda, living in chambered shells, and possessed of four branchiæ, with only a systemic heart, as in the pearly Nautilus, the female sexual organs have alone been examined. In the higher group, the Dibranchiata, the male organs consist of a large single testis, contained in a distinct cavity formed by the peritoneum, a long and slender vas deferens which dilates in its course, and assumes a glandular character, and two accessory glandular sacs. In the Octapus, an excellent figure has been given of the male generative organs by Cuvier. The testis is of a rounded form, and upon opening its capsule is found to be composed of a number of simple cæcal follicles, attached by one point to the internal surface of the sac. The secretion exudes through the parietes of these follicles, and gradually fills the investing capsule, from which a single vas deferens proceeds, and conveys the seminal fluid; the vas deferens then becomes dilated and glandular, and is soon joined by a large and capacious prostatic sac, somewhat curled at its extremity. Beyond this is another sac, lamellated in its interior, and receiving the seminal secretion; and from the latter is continued an excretory duct, which terminates at the base of a short penis, near the termination of the siphon. Within the capsule of the testis, and during its passage along the vas deferens, the male fluid is composed of minute granules; but after its admission into the last-described sacculus, it is found to contain the spermatozoa.

The spermatozoa were first seen and described by our countryman, Needham, and have since been known by the name of the moving filaments of Needham. From their peculiar structure and form they have been the subject of much inquiry; the sac in which they are found is analogous to a nidamental gland, and undoubtedly provides the external cylindrical covering to these moving bodies. The granules of the seminal secretion undergo some remarkable change during their progress along the vas deferens, so as to be converted into the minute spermazootic filaments, which are found in this sacculus of Needham. These moveable filaments must not be regarded as a species of animals distinct from the animal in which they are found; nor can we, indeed, regard them as animals at all, for they cannot be endowed with voluntary powers; and we are aware that motion is no argument in proof of animality, for the same phenomenon has been observed in the sporules of the vegetable kingdom. That they do not exist in the seminal fluid immediately after its secretion is quite evident; it is also clear that they are formed in the sacculus, in which they obtain their external and irritable

covering. By a peculiar elastic movement they are enabled to force out the internal portion which contains the minute spermatozoa; and the latter are thus diffused in the circumambient fluid, and are placed in a condition to permeate the clusters of ova of the female.

RESEARCHES
INTO THE
PATHOLOGY, PHYSICAL SIGNS,
AND
TREATMENT OF PERICARDITIS;
ILLUSTRATED BY CASES.

By THOMAS MOORE, *Secretary to the Dublin Medico-Chirurgical Society for* 1840-41.

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CASE II.—*Case in which the "Clicking Sound" was well marked on admission—Uncertainty as to the Existence of Pericarditis—This Sign evidently produced by the Heart striking against the Bronchial Tubes, loaded with muco-purulent matter.*

A CLERK, 19 years of age, of delicate constitution, and subject for several years to a slight cough and scanty expectoration, was brought into the fever-ward on the 19th of March last, being then eight days ill. His sickness commenced with the premonitory symptoms of fever; being exposed to a draught of air whilst in a profuse perspiration, he was attacked, in the course of a few days, with a sensation of stuffing and constriction of the chest; an increase in the severity and frequency of the cough; also a burning heat and pain in the region of the heart, not, however, augmented by full inspirations or position; and not accompanied before or after by any derangement of the organ itself. He was bled, leeched at the temples, blistered, and purged, which in a great measure removed these complaints. The following are the leading features in the case:—Pain in the head; difficulty of breathing, with sense of tightness across the sternum; a short teasing cough, without expectoration; urgent thirst; restless nights; the skin hot and dry, covered with pale-coloured spots; the countenance clear, and features composed; pulse 100, soft and regular.

Percussion and respiration over all parts of the chest are good; about an inch below the left nipple there is a peculiar "clicking sound" heard laterally over a space of three or four inches, above the mamma, for nearly an inch and a half, and towards the right side as far as the inferior and middle portions of the sternum, attendant on the sounds of the heart, without the slightest intermission during the examination; not perceptible to the touch; not increased by pressure over the cardiac region, nor by the retention of air in his chest.*

The next day this sound had altogether disappeared, the heart's action being quite regular and sounds distinct. During the night he spat up some green-coloured phlegm, and in the left lung there was a mucous râle, mixed with other bronchitic sounds. No return of the "click" took place till the 25th; the fever progressed, the heart affording a good instance of typhoid softening, indicated by the type of the fever, the feebleness of the first sound, and the weakness of the pulse; but yet the action was free from any noise.

Yesterday, the 24th, he commenced spitting up muco-purulent matter, and throughout the chest there existed mucous râles. The following is the report of the 25th:—

When the stethoscope is placed directly over the left nipple, there is a distinct creaking noise with both sounds of the heart; from this point, extending laterally, it increases in loudness, and by the application of pressure on each side the stethoscope, it is rendered a complete frottement, obscuring each sound of the heart; it resembles a sound between the crepitation of a healthy lung, and the friction of two rough surfaces, or the noise produced by rubbing together two pieces of a Mackintosh cloak; the clicking sound is occasionally heard, but not in a well-marked manner. These experiments did not occasion pain, of which he made no complaint; for two days no material change occurred in the physical signs; percussion over the præcordial region affording a clear sound. On the 29th, the sounds had diminished in loudness and distinctness, and seemed as if the heart were striking against a loaded bronchus or bronchi; the alteration in the phenomena ceased to be produced by pressure as on former days; he was still expectorating, in large quantity, nummular sputa, of a yellowish green colour. At length, on the 31st, the impulse,

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* It is right to mention that the merits of these several experiments were being tested, as a means of diagnosing between valvular disease and the pericarditis with effused lymph. It was usually observed, that the cessation of respiration for any length of time produced a marked diminution in the intensity of the valvular murmur; whilst in the acute affection, a considerable increase in the loudness of the murmur resulted from the approximation of the effused lymph. This has been especially observed by employing uniform and steady pressure over the cardiac region in cases of pericarditis. For an interesting case, in which it afforded much assistance, see the Dublin Journal of Medical Science, No. 42, vol. xiv. headed "Hepatic Abscess bursting into the Stomach, and opening through the Diaphragm into the Pericardium."

action, and sounds of the heart were quite natural, and free from all noises; instead of the muco-puriform matter, he was expectorating sero-mucus, and this too in trivial quantity; the lungs also had become quite free.

It would be foreign to my purpose to enter into a detailed exposition of this man's case, curtailed as it has been, and mentioned merely for the purpose of showing that the "clicking sound," in this individual, corresponded to, and was of the same character, as that observed in the coppersmith (see LANCET, p. 558), but differing in these particulars,—the one being constant, whilst the other was intermittent; the first happening in a case of well-marked pericarditis, the other, in a case where nothing certain could be affirmed, all diagnosis being suspended; both lasting for one day, then disappearing, and returning in the second patient after a few days, but never reappearing in the first,—at least during the time he was stethoscopized; its cause in the first remains to be explained, whilst in the second it may be partially accounted for by the sequel of the case.

CASE III. — *Idiopathic Pericarditis occurring in a Child—Large Effusion of straw-coloured Fluid into the Pericardium—Extensive Dulness beyond the Cardiac Region—Bulging of the Præcordial Region—Supra-clavicular Tumour from Protrusion of the Apex of Left Lung above the Clavicle—Singular Tympanitic Sound on Percussion over both sides, left especially—Death about Ten Days after first Attack—Pathological Appearances.**

Mary Kernan, ætat 10, was admitted into hospital yesterday, October 6, in a state of collapse, moaning, sighing, and evidently suffering great distress from difficulty of breathing; the pulse could scarcely be detected; her extremities were cold, and considerable tenderness existed over the left side of the chest. Carbonate of ammonia, with calomel, and dry cupping to the painful parts, were ordered; and being this morning more at ease, she gives the following statements as the history of her illness:—

Being placed in a draught of air yesterday week, whilst lying in bed, she was seized the following day with shiverings, vomiting, headach, pains in the loins, thighs, and legs, also a beating of the heart so strong as to make her imagine it would at last "thump" through the side, continuing for two days with slight intermissions in its violence; it was then accompanied with an acute, sharp, lancinating pain in the mammary region, extending to the neck and back, being particularly severe between the shoulder-blades and the left arm as far as the elbow, and aggravated by full inspiration, motion, or muscular efforts of any description. Added to these complaints, there was difficulty of lying on the left side, with shortness of breath, and a hacking, distressing cough, without expectoration; this, however, she had for many days previous, without any attendant pain or other untoward symptom. From the chest, the pain seemed to spread, or dart forward to the right side of the abdomen, and from thence over every part of the belly, occasioning more uneasiness than when confined to its primitive seat. Prior to coming in, some purgative medicines were given with slight relief. For several nights past, her sleep has been much disturbed, and she now lies on her right side, groaning frequently, and prostrated in strength, so as to be unable to raise herself in bed without assistance. She complains mostly of urgent thirst, a stuffing about the chest, and a "great weight, or heavy load on the heart," inability to lie on the left side, or sit up from an increase in the cough; pains in the mammary region, and palpitations of the heart; when pressure is made over this portion of the chest, much disquietude is produced.

Her countenance is bloated, œdematous, and pale; lips almost colourless; skin hot and dry; breathing rapid and laboured, 48 in the minute; pulse 120, small, feeble, varying in strength, and intermittent; tongue furred and clammy.

The left side of the chest to the eye appears fuller than the right, of larger dimensions, and the muscles, as it were, puffed out; this is particularly obvious about the nipple; when measured, no inequality between the two sides can be discovered; percussion from an inch below the left clavicle, to the lower part of the cardiac region, also laterally over a space of several inches, is perfectly dull; this is likewise observable over the middle and inferior parts of the sternum, and to the right of this bone, whilst posteriorly over both scapulæ, as far as their spinous ridge and below these bones, it is preternaturally clear, much more so over the left than the right side. Respiration is exceedingly feeble over the dull parts, but free from râle, and elsewhere very loud. Impulse of heart cannot be felt; its action feeble, sounds indistinct below the mamma, becoming more audible towards the sternum, and can be heard in the epigastrium. No bruit can be detected. Abdomen full, tense, and much pain on pressure over the hepatic re-

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* Shortly after this essay was read, the following case was published in the "Dublin Medical Journal" by Dr. Graves, with whose permission and sanction I subjoin the annexed remarks as communicated to the Society; having reported it whilst acting as one of his clinical clerks.

gion. She was ordered six leeches to be applied to the cardiac and right hypochondriac regions, and to take of the powder of chalk with mercury five grains three times a-day.

7. Leeches were applied to the hepatic region alone; she expresses herself somewhat relieved, and can now lie on the left side without being so much inconvenienced; slept better, and moaned comparatively little; pulse very irregular, is full and soft at one time for eight or ten beats, then diminishing in strength, it increases in frequency to the rate of 120 or 130, gradually vanishes from beneath the finger, and ceases to be felt; the succeeding pulsations are full and distinct, not more than 88 or 90 in the minute; respiration 48, still distressed; bowels opened twice; tongue loaded and moist; percussion over the parts noted above remains the same; on the clavicles of each side is quite natural. Immediately above the left clavicle there is an evident fulness or swelling of the lower part of the neck, not visible on the right side; *and on coughing a tumour is brought into view, which disappears as soon as the paroxysm subsides;* respiration in this part is perfectly distinct; a wheezing râle is audible in the lower portion of the left side; heart's impulse and action the same; in the erect posture its sounds can scarcely be detected, but on lying down they are tolerably distinct. Let a blister be applied to the pit of the stomach, and the chalk powder with mercury continued.

8. Was very restless the entire night, moaning frequently, and coughing constantly; her countenance is less swollen; her breathing is more difficult; and she complains principally of the "stuffing and weight about the heart;" pulse remains of the same character, but is not so irregular. No change has taken place in the phenomena either of the lungs or heart, except that the fulness in the lower part of the neck is more apparent, and the bronchitic râles more distinct in the inferior and middle portions of each lung; abdomen not so tender, but still swollen; bowels purged. Leeches were again ordered, and a further attempt made to bring the system under the influence of mercury by inunction and the vapour of a mercurial candle.

9. Breath is slightly mercurial; appears less affected in her breathing; the respirations continue rapid, 40 in the minute; no alteration in the character of the pulse. There are now intense cooing and hissing râles in each lung posteriorly, but otherwise no change has taken place in percussion or respiration. The cough is very troublesome, and attended with a frothy tenacious expectoration; pains increased and palpitations induced by lying on the left side. Let her continue the medicine, and have a blister applied over the right hypochondrium.

10. Prefers being in the erect posture, being more at ease, less oppressed, and in a great measure relieved "of the weight and load on her heart;" her countenance and aspect generally are improved, but her breathing remains frequent and laboured; *the pulse is regular,* 128 *in the minute; does not vary in strength; neither has an intermission occurred during so many beats.* She is at present sitting up in bed, and whilst in this posture the pulse was counted.

Percussion over the inferior portions of each lung posteriorly, the left in particular, has lost its tympanitic sound, but retains it at the superior parts. Heart's impulse is still imperceptible, its sounds are distinctly audible along the sternum. Apply a blister to the left side.

11. The pulse again varies in strength, intermits occasionally, and partakes of the description given on the 7th, is 120 in the minute, but she is now in the recumbent posture; passed the night, as heretofore, moaning, and in a very restless manner; complains of the oppression about her heart being increased, and refers it to the lower part of the sternum and right side. There is considerable wheezing in the throat; on account of the blister no examination of the chest could be made; pressure over the abdomen produces pain; it is swollen and dull all over when percussed. Let a blister be applied over the cardiac region.

12. The report of the appearances and physical signs observable this morning, stands thus:—Integuments of the right side of chest appear œdematous, the left retaining the bulging and apparently increased dimensions, more evident to the sight than in strict correspondence with the result of measurement, as was remarked on admission; lower portion of the left side of neck, contrasted with right, swollen, or, as it were, puffed out in a conspicuous manner, and subject to the same alterations noted on previous occasions; percussion over left clavicle affords a clear sound, perhaps more so than usual, and also for the space of an inch inferior to this, but from this place extending laterally for several inches downwards over the cardiac region; in front, along the entire of the sternum to within an inch of the fourchette, as also to the right of this bone, excepting the clavicular and infra-clavicular regions, perfect dulness prevails; whilst posteriorly, over the superior parts in particular, of the left side especially, a very slight degree of percussion emits an extraordinarily clear, almost tympanitic resonance; in the supra-clavicular tumour, and the portions of the sides clear on percussion, there is a loud, distinct, healthy, vesicular murmur, whilst no vestige of it can be detected over the dull parts of the left, and but an indistinct trace corresponding to the same parts of the right side; over the middle and superior portions of the scapulæ the respiration is loud, but

seems not to reach the terminal tubes; the voice, also, is very resonant. These remarks are more applicable to the left lung. Impulse of heart imperceptible; action in cardiac region almost inaudible; both sounds, though not so distinct as in the natural state, can be heard in the epigastrium, and at the lower extremity of sternum; pulse the same as before; respiration 56 per minute.

13. Pulse almost imperceptible; breathing more laboured and distressed; lips of a livid hue. Died at 11 o'clock, P.M.

Post-Mortem Fourteen Hours after Death.

External appearance similar to that presented when alive; countenance puffed, pale and œdematous; chest, *particularly left side, full and prominent*, and the abdomen distended and rounded. The same phenomena are afforded by percussion, as noted in the reports during life. The integuments of the chest, as also those of the abdomen, are watery. As soon as the knife pierced the cartilages of the left ribs, a gush of straw-coloured fluid took place, and when the sternum was raised nothing but the pericardium could be seen; to such an extent was it distended, as to occupy the mesial line, exteading from the diaphragm to within one inch of the fourchette of the sternum, and across to the right side. On removing it from the left cavity of the thorax, the lung was found much diminished in size, pushed upwards, and pressed against the spine and ribs, by the super-imposed bag of fluid having lost a great deal of its natural feel, and appearing like a lung slightly compressed by a pleuritic effusion. The right lung was also affected in the same manner, but in a minor degree. Slight adhesions of recent formation existed between the left lung and pericardial sac, as also between the pulmonary and costal pleura, at the superior lobe of the right lung. The upper portion of the superior lobe and costal pleura of left side were adherent; in breaking these down, the finger had to be insinuated between the clavicle and lung, and passed above this, so as to reach the apex; in this manner it was, as it were, scooped down. After the detachment of these from the interior, percussion was practised on their posterior surface, when a very clear sound was emitted from the left, with a less remarkable one from the right. The contrast between the two was quite striking.

The pericardium itself is increased to at least three times its natural capacity; its exterior highly vascular, whilst its internal surface appears smooth, shining, and covered with a gelatinous kind of fluid, resembling the mucous coat of the stomach, or other portions of the intestinal canal. Its thickness is from three to four lines, but by inspecting the cut surfaces minutely, it is evident that this increase is produced by the addition of a false membrane. On the superficies of this latter are several patches of apparently coagulable lymph, stained, of a purple or dark-red colour, differing considerably in their dimensions, and situated, in particular, near the base of the heart, and that part of the sac in connection with the posterior surface of this viscus; the largest patch is of an oblong shape, about two inches in length, and of a darker colour than the rest; is adherent to the anterior portion of the heart.

Besides these, there are visible, countless depressions, or pittings capable of admitting only the point of a needle, in some places; in others, towards the lower and anterior part of this membrane, the end of a probe; whilst near the base of the heart and the posterior portion of its envelope, this coating is separated into distinct patches, the glistening surface of the pericardium being quite apparent underneath; this membrane can, with the greatest facility, be scraped off by the nail or end of the scalpel. The entire exterior of the heart is of a vermilion red colour, coated over with a delicately-formed honeycomb, reticular kind surface; the posterior is trebly more so, and with a form of lymph more organised, denser and firmer; from its exterior are three or four appendages, tough, closely adherent to, and evidently taking their origin from the surface of the coagulable lymph.

On the removal of a portion of this coating, the substance of the heart beneath presents a rosaceous hue; its size does not appear to be much altered, perhaps larger than natural. No examination of the interior. A quantity of the same coloured fluid escaped from the cavity of the abdomen on laying open its parietes; the liver did not appear increased in size, and its structure was perfectly healthy; bands of lymph few and slight passed between and connected together the visceral and parietal peritoneum, not connecting together the intestines themselves. The interior of the intestinal canal was not examined.

Remarks.—This may be fairly set down as a case of true idiopathic pericarditis, not consequent on any previous inflammation of the joints, nor the metastasis of any other disease, but originating in the pericardium, and produced by some external exciting cause, in the same manner as other phlegmasiæ frequently are. On admission, the most unfavourable prognosis was formed, the complaint having proceeded to such a degree, that life was in danger from immediate suffocation. It was dreaded, also, that a sudden and fatal termination would result from the condition she laboured under when brought in. In the account she gave, there are very few of those distinguishing marks of the disease usually laid down in our guide books absent; but there is also one striking feature not generally observed, nor in strict accordance with the usual mode of attack, and common train of symptoms,

varying in this respect from the coppersmith's case. It consists in her being troubled with violent beatings of the heart for two days and nights, before any pain or uneasiness affected the organ itself; in like manner we often observe a similar variety in the pulse. In several cases it has been observed by Dr. Graves, that when the patients suffered from rheumatism, a well-marked irregularity of the pulse preceded the immediate attack of the heart, by ten, twelve, or twenty hours, no other symptom or sign of the transfer of the disease being present. There existed, also, another symptom—the weight or load on the heart, on which she laid particular stress, attributing to it the entire cause of her complaint. This certainly would not have been of such value had it occurred in diseases unconnected with the heart. How often in fevers and many acute affections do patients complain of a great "impression" on the heart, and a weight or load in the cardiac region. But in such instances we are aware that this is a link in the chain of other symptoms usually preceding, ushering in, or accompanying some more severe form of disease, and subsiding altogether, or being greatly lessened as soon as this has properly set in. We are not justified in viewing it in such a light here, connecting it with the history and her state at the time, it will be allowed as a sign of some importance in assisting us to form a diagnosis.

Combining her statements, her condition when seen for the first time, and the physical signs, no question was entertained respecting fluid in the pericardium, and that to a considerable amount. By such a diagnosis we can readily account for the dulness over the anterior part of the chest, the precordial region especially. The absence of the heart's impulse, and its displacement either towards the right side or into the epigastrium; the exceedingly feeble respiration in the left lung at the commencement; the complete suppression of it a few days prior to death; at the same time, when audible, being pure and free from any phenomenon, indicating either congestion or inflammation; whilst the stethoscopic examination in the posterior parts altogether perplexed and embarrassed those who were present.

Many were the guesses, many the opinions started, and many the dissentient voices amongst the different members of the class. On all sides it was agreed, that the sound was preternaturally clear. Indeed, when this part of the chest was struck, it emitted a sound equalling in clearness that which can be obtained by striking a stomach inflated with gas. Impressed with the idea that this organ, together with the intestines, was its origin, they were percussed; but the sound elicited, instead of accounting for, on the contrary, contradicted such an assumption. Some imagined that it proceeded from a secretion of air into the pleural cavity, whilst among others there prevailed an opinion of its being caused by empyema. Amidst such a contrariety of opinions you may readily conceive no very certain conclusions could be drawn, or if any were inferred, but little faith was attached to them. As this phenomenon continued during her stay in the hospital to the period of her death, without any material alteration having taken place, either in its increase or decrease, it was supposed to be a natural state of parts, or caused by the remarkable contrast between the dull anterior and clear posterior. The contrast between the two was very striking, but the difference between the clearness of the two sides posteriorly was most evident.

It is now a well-authenticated fact, that the lungs being always, to a certain extent, filled with air, in their healthy state the chest resembles, in many particulars, the common drum, and is therefore subjected to many of those incidents which exercise such material influence over its modulations and tones. To illustrate this, we need only strike this instrument when unbraced, and observe the character of the sound obtained. On the other hand, let the same experiment be performed when all the cords are braced, and then compare the sounds. Their disparity, familiar to all present, is too obvious to dwell on. In like manner we can apply this to the chest, and have it amply proved by lesions of the lungs, without an extravasation of air. What, then, should prevent the extension of this similarity, in reference to this case? Is it not evident that if a pericardium be filled with fluid to the amount which existed here, the parietes of the chest must suffer considerably? Is it not reasonable to suppose they can be affected in no other way than by being rendered tense, put on the stretch, or braced like the drum, by this compressing and expanding fluid; and thus may we not partially explain the cause of this preternaturally clear sound? The sole cause of this abnormal phenomenon can scarcely be attributed to the ribs alone, be they ever so much overstretched: nor does this mode of explanation, when compared with the results of percussion, appear satisfactory, inasmuch as we find the almost tympanitic resonance as distinct over the scapular ridge, and in the supra-spinous fossa, as at the middle and lower part; yet the tension of the ribs could not convincingly account for its presence here.

During the patient's lifetime, it never occurred to our minds to investigate the relative position between the organs of circulation and respiration; in what manner the latter might be circumstanced with and affected by the former, when in a condition calculated to displace and compress the neighbouring organs. Post-mortem examination discovered to us the omission of a

very important question in this respect, and one which, if properly inquired into, might have led to the real state of the lung, and have enabled us to unravel, in some degree, this perplexing phenomenon. Probably many persons present are aware that if a healthy lung be moderately filled with air, and then struck, without their being any support underneath, a clear sound is obtained; if a tolerable degree of pressure be exerted, and the air forced from the surrounding parts to the peripheral portions, and whilst retained there, percussion be again performed, a well-marked augmentation of its resonance may be observed. Again, if this portion of lung be placed in contact with a bladder recently filled with water, and the two be firmly pressed together, a further increase in the resonance may be noticed. In this manner we may obtain some idea of the state of the parts. Here was the lung, perfectly healthy in its structure, compressed against the ribs, by a sac largely distended with fluid superimposed on it; the air, as it entered the tubes, being forced by the pressure to the circumferential portions, and being unable to escape with the same facility with which it entered, and not being completely discharged from thence, in the act of expiration, a greater quantity than natural is retained in the lung; its resonance is increased, and percussion rendered abnormally clear: by combining the results of the tense state of the ribs, and the condition of the lung just mentioned, we can offer a more explanatory and satisfactory account than at first.

There is another circumstance worthy of remark, assimilating this case to the first: the tumefaction at the lower portion of the left side of the neck is now alluded to, which though in this instance not so remarkable nor so prominent, yet was sufficiently apparent to attract our attention, being attended with all the physical signs and those characteristics whereby we were induced to diagnose displacement of the lung. The non-existence of any pleural inflammation must not be omitted, consequently this sign is rendered of still greater value, in enabling us to discover a collection of fluid in the pericardium. Our conjectures as to the situation of the lung were not in this, as in the other case, unverified by the recovery of the patient. The examination of the lung, found in the autopsy, pushed upwards beneath the clavicle, and confined in this situation by recent adhesions, corroborates it in the fullest manner, beyond which further proof is not required. The only reason which can be assigned for its presence, appears to be solely attributable to the pericardium and its contents; thus, also, we may confirm those particulars stated in the preceding part of this paper, relative to the production of this interesting physical sign, which it is not necessary to reiterate here.

We have now reviewed the principal features of this case, although many remain unconsidered which cannot be entered into at present.

DIVISION OF THE INTERNAL RECTUS MUSCLE IN *CASES OF SQUINTING*,

WITH OBSERVATIONS, BY

P. BENNETT LUCAS, Esq.

June 12, 1840.—Mr. Mills, ætat 21, has had strabismus since he was three years old. When he looks directly forward with either eye the other turns inwards, and slightly upwards, so as to conceal about one-third of the cornea; but the right more. The pupil of the turned-in eye dilates to double the extent of the other. Until he was three years old the movements of his eyes were perfect. At that period one of the eyes became slightly inverted, and the deformity was endeavoured to be removed by keeping the sound eye covered with a bandage, but without any happy result, and the eyes soon acquired their present movements. By some of Mr. Mills's relatives the strabismus was attributed to cold, and by others to a fall. In the presence, and with the concurrence, of Mr. Pilcher, Mr. Chaldecott, and Drs. Wilde, Pettigrew, and Walsh, I proceeded to operate. The method I adopted in this case, and in others, differs in some respects from that pursued in the cases which have already appeared in The Lancet, and even renders the operation still more simple. The patient was seated in a low-backed chair before a window, and his head was allowed to recline sufficiently, and was supported by an assistant standing behind him. The eyelids of the right eye were kept apart in the following manner. An assistant placed one of his forefingers on the integuments covering the malar bone, and drew them downwards and outwards, by which the lower lid was sufficiently depressed and steadied without the finger being in the way of the operator. The upper lid was sufficiently elevated by the other forefinger of the assistant, which was so placed as to draw the integuments towards the supra-orbitar ridge, against which they were secured. The left eye was bound up to exclude the light. I desired the patient to direct his right eye as much outwards as possible, and, watching my opportunity, I inserted the fine-pointed hook into the conjunctiva about two lines distant from the cornea, and with a fine-pointed scissors

made the vertical section of that membrane to the required extent. The fingers of the assistant were then removed, and the lids were allowed to meet, and remain in this position for a few seconds, during which time I changed places with the assistant, who supported the patient's head, and allowing it to recline on my chest, I elevated the upper lid with the forefinger of my left hand, the lower lid being depressed as before, and readily passed the blunt hook, held in my right hand, beneath the tendon of the rectus muscle from below upwards. The muscle and the globe of the eye were then at perfect command, and I divided the tendon with the same scissors with which the section of the conjunctiva was made. The patient was very pale throughout the operation; he felt "overcome," but did not faint, nor suffer pain. These circumstances account for the fact, that not the least hæmorrhage occurred. In two hours, when the system had reacted, a few drops of blood appeared at the edges of the incision. The healing process proceeded favourably.

The operation immediately rendered the eye perfectly straight, and visibly more prominent than its fellow. The left eye, as was anticipated, turned in, which the patient expected before the operation was performed. From there being no blood, and the patient being completely under control, from his temporary debility, the operation occupied less than two minutes.

June 16. Proceeding favourably. No pain or uneasiness since the operation. There is considerable vascularity of the conjunctival vessels in the vicinity of the incision, and a vertical layer of lymph, about a line thick, between the divided conjunctiva, the edges of which membrane are slightly swollen. The left eye is turned in more permanently than before; he can, by an effort, direct both eyes to the same object, but can retain them so only for a few seconds.

21. At the first operation it was determined that the left eye should be operated upon after a few days, and this day, with the kind assistance of Mr. Pilcher and Mr. Chaldecott, I divided the tendon of the inner rectus muscle of that eye in the same manner. The eye immediately became straight, and equally prominent with its fellow, and both eyes moved naturally.

July 8. After the first operation the patient saw objects double, on two or three occasions. This double vision is now more constant; but he can keep both eyes open, and apparently direct them to an object, without seeing it double: it is evident, however, from the following experiment, that but one of the eyes is employed in viewing it. On desiring him to look with both eyes at an object, and which he appeared to do, I placed my hand between it and his right eye, when he immediately lost sight of the object, although the left eye did not alter its direction. Still keeping my hand over the right eye, I desired him to look at the object with his left, and at the moment of his doing so the left eye moved slightly inwards. He experiences giddiness when exercising both eyes, and also when descending a staircase.

11. Still sees double, but not to the same extent as before. The "counterfeit," or "second object," appears to him to be at different distances from the real one. Has felt difficulty, since the second operation, in directing his hands to objects within his reach; but this also has been getting less every day.

18. Giddiness entirely gone: probably it was unconnected with the operations. He can direct his hands to objects with certainty, and the double vision has almost entirely disappeared.

Case 2.—June 10. Mary Anne Davis, æt. 16, (one of the cases alluded to in The Lancet of July 4,) has had double strabismus since she was three years old. Her irides are of a deep brown colour. When this patient looks directly forwards with either eye, the other runs upwards and inwards until the cornea becomes almost entirely hid. She cannot, under any circumstances, direct either eye farther outwards than the centre of the axis of the orbit.

In consultation with Mr. Pettigrew, and Drs. H. Green and W. Pettigrew, I divided the tendon of the inner rectus muscle of the left eye, which being accomplished the organ at once became much more prominent than its fellow, and was capable of being considerably everted, but not to that extent which the eye can be in the natural condition.

The right eye now remained more permanently turned inwards than before; the healing process went on as usual, and on July 7th I divided the inner rectus muscle of the right eye.

The effects of both operations upon the movements of the eyes are as follow: When either eye is directed forwards the other inclines inwards, but never to an extent sufficient to hide any part of the cornea. When an object is placed directly before her, and she looks with both eyes towards it, they are straight; but when the object is placed laterally, one eye is turned more inwards than it should.

Case 3.—June 19. Ellen Roche, æt. 18, has had double strabismus since she was two years old, and which took place after small-pox, from the effects of which she is slightly pitted; her irides are of a light blue colour. When she looks forward with either eye the other turns in, and the right eye more so than its fellow. I operated on the inner rectus muscle of the right eye, as in the other cases.

22. The right eye is perfectly straight,

and more prominent than the other. She says she sees things better than before. The left eye turns in, but not to the same extent as before.

July 17. I have not seen this case since the last report, and am ignorant of the patient's residence.

These cases, or rather two of them, derive their interest from the fact of both the inner recti muscles having been divided. The length to which Mr. Mills's case extends, and the interesting phenomena which it presents, render any further observations on the division of both recti muscles unnecessary. Since the last report of the cases in which I have operated, and which appeared in THE LANCET of July 4, I have divided the inner rectus in six other cases, making a total of thirty-eight; and that experience, together with the experience of other surgeons, fully warrants me in stating, that the application to the human eye of the division of its muscles for deformities is still in its infancy. It is only by the surgeon keeping a faithful and accurate report of the cases which pass through his hands that improvements can be effected in this new operation. When I hear of 250 cases having been operated upon with perfect success in all, I confess I receive such a report with some degree of scepticism; more particularly when I have seen the eye to remain perfectly straight for eleven days, and then to incline again inwards, demanding a second operation. If the operation were one of difficulty, it might justly be said that some of the fibres of the muscle had not, in the first instance, been divided; but the man must be a sad bungler who leaves his operation thus imperfect. As I have already reported, I had to operate a second time in two cases, and I found the muscle adherent to the sclerotic coat, a very short distance behind its original insertion; and that it was this new attachment of the muscle which drew the eye slightly inwards on the eleventh day: the proof of which was that on the muscle again being divided the eye became straight.

So intimately are the tendons of the ocular muscles connected with the sclerotica, that great care should be taken to avoid injuring the latter when dividing any of their tendons. A gentleman who was present, some weeks since, at an operation for strabismus, told me that the sclerotica was divided, and that a portion of the vitreous humour escaped. The best instrument to provide against an occurrence of this kind is the blunt hook, which I have used in every instance, and which I take the credit of introducing to the notice of the profession, through the pages of THE LANCET. With it and a common pair of straight scissors, the tendon of the muscle can safely and effectually be divided, without resorting to the unnecessary proceeding of dissecting the inner part of the ball of the eye perfectly clean; it protects the sclerotic coat perfectly, and it gives us complete command over the muscle and the eyeball, no matter how much the patient may struggle.

It is a question for grave deliberation, how far the surgeon would be justified in cutting other muscles of the human eye, after his having divided the inner rectus muscle, without the results he anticipated in so doing being entirely realised. I have never as yet divided, in conjunction with the inner rectus muscle, the superior or the inferior rectus, or any of their fibres. By dividing these three muscles, no doubt but the external rectus would be placed in a most advantageous way to draw the eye outwards, and to keep it there! or, at all events, to incapacitate the patient from turning his eye inwards beyond the centre of the orbit. Placing an eye in such a position, appears to me to do little good by the operation, as it must necessarily substitute one squint for another. I would be much better satisfied, and I am sure the patient would also be, that a slight degree of strabismus remained after the operation, with power to turn the eye inwards, than that it would remain comparatively fixed, having no movement inwards beyond the centre of the orbit. These are questions, I may again repeat, for grave deliberation, requiring us to apply our knowledge of anatomy and physiology to the actions of the muscles under our consideration, before we hastily operate upon them with the mere object of making one eye straight.

If not intruding too long on the valuable pages of THE LANCET, may I request to state, that, whatever may be said to the contrary, the earliest operation for strabismus in this country was performed by me, and reported in THE LANCET. That my reports in THE LANCET also show, that I have materially simplified the original operation of Professor Dieffenbach; that I never claimed in any of these reports a particle of credit for so doing; and that even now I would remain silent on the subject, were it not that, for the last six weeks, I have been snarled at in newspaper paragraphs, which I could not reply to without paying for, and which would not be worth the stamp duty to do so.

CASE 4.—Aug. 1, 1840. *Division of the External Rectus Muscle for Divergent Strabismus of the Left Eye.*

Jane Johnson, æt. 30, has had divergent strabismus of the left eye since she was eight years of age. Her eyes are prominent, and the irides of a grey colour: when both her eyes are open, and the right one directed forwards, the left occupies the external canthus; when she turns the right eye as much outwards as possible, the left then occupies a position a little internal to the axis of the orbit; when the right eye is covered so as to exclude the light, she can then turn the

cornea of the left eye as far as the plica semilunaris, but she is incapable of turning it deeper, so as to hide any portion of the cornea; a motion which can always be effected in the natural position of these organs. In the presence of Dr. Léon Husson, Dr. Dolce, Mr. Cameron, and Mr. Sharpe, I divided the tendon of the external rectus muscle in the same manner, and with the same instruments, as in the cases which have already appeared in THE LANCET. The operation was much easier than that for the division of the internal rectus, and the hæmorrhage was inconsiderable.

The following is an exact account of the movements of both eyes after the operation:—As soon as the division of the tendon of the external rectus muscle was completed, the eye occupied the axis of the orbit, when the patient moved the sound eye to its fullest extent outwards, the eye operated upon occupied the inner canthus, but did not turn so deep as it does when both eyes are unaffected; in this respect, the same phenomena presented themselves as when the inner rectus muscle is divided for convergent strabismus of one eye.

The strabismus in this case must have been owing to weakness of the internal rectus muscle, or, perhaps, total, or partial, paralysis of it, otherwise there was nothing to prevent the eye from being turned deeply inwards, so as, partially, to conceal the cornea, and the oblique muscles were capable of producing the inward movement which took place: the eye, notwithstanding the division of the external rectus muscle, was capable of being turned outward, but not to the same extent as occurs in its natural movements. It is difficult to account for this, unless we attribute to the outer fibres of the superior and inferior recti muscles the power of so doing.

ABANDONMENT OF THE HOOK IN THE

OPERATION FOR SQUINTING.

To the Editor of THE LANCET.

SIR:—As much attention is just now bestowed on the subject of Dieffenbach's operation for strabismus, I trust you will permit me to offer a remark upon it.

All those who have described the operation mention a sharp hook as a necessary instrument for fixing the eyeball; indeed, some consider that several hooks are required. Besides the objection of wounding the sclerotic tunic, if it can be avoided, the use of the sharp hook is attended with a very considerable degree of pain and alarm to the patient. I believe it to be a perfectly unnecessary instrument, and that the operation may, in all cases, be performed without it. I have thus performed the operation three times: one of the patients, a boy, in St. James's Workhouse, was but five years old, and, therefore, incapable of affording assistance by any voluntary effort to fix the eyeball.

The operations were conducted in the following manner:—

The sound eye being covered with a bandage, my friend, Mr. Farquhar, of Albemarle-street, raised the upper eyelid of the affected organ with a speculum. I then raised the conjunctiva slightly with a forceps, and made a vertical incision with a pair of scissors, midway between the cornea and the inner canthus. I then passed a probe-pointed hook, furnished with a cutting concave edge, under the internal rectus muscle, but as too much resistance was made by the muscle to the hook-knife, a few of the superficial fibres were divided with the scissors; the former instrument serving as a director until it cut its way out. I venture to express a confident opinion, that the sharp hook will shortly be entirely abandoned in this operation. I am, Sir, your obedient servant,

JOHN GEO. FRENCH.

St. James's Infirmary,
July 27, 1840.

FIBRINOUS MASSES IN THE HEART.

To the Editor of THE LANCET.

SIR:—HAVING read in THE LANCET, of June 6, a discussion on polypus of the heart, at a Pathological Meeting of the Fellows of the Medico-Chirurgical Society, I beg to submit to the profession the subjoined case, in illustration of this subject, through the medium of your valuable columns. I remain, Sir, your obedient servant,

GEORGE MILLER, M.R.C.S.
Emsworth, Hants, July 15, 1840.

Sarah Tipper, ætat 26, unmarried, native of Emsworth, had been robust, and in the enjoyment of sound health, until within the last nine months, when she became liable to occasional attacks of indisposition, which interfered with her daily duties as cook, and rendered her delicate and weakly, inducing her friends to suspect phthisis pulmonalis. On the 15th of May she was seized with a severe pain across the whole epigastric region, which was very sensibly aggravated by inspiration, pressure, and even the movements of the body; nausea, occasionally amounting to vomiting of a yellowish or colourless frothy fluid; tongue coated with a whitish fur, but towards the termination of the case, when the pain and sickness had been completely relieved, it was glazed, and of a red colour; countenance pale, with a rosy flush, accompanied

with complete anæmia of the upper lip, which was invariable, although the face was strongly flushed at times with febrile excitement; anorexia and sleeplessness; the chest free from pain or uneasiness, and the lungs upon percussion proved sound; no cough; respiration at intervals, painfully laborious; the action of the heart was normal, but of a subdued character, imparting a sensation as if this organ was at a greater distance from the thoracic parietes than it really was; no palpitations; pulse soft, and ranging from 90 to 130, occasionally full, but generally of a natural force, never intermittent or irregular; bowels always disposed to constipation, and the motions frequently dark and fœtid; flatulence and thirst excessive; headachs occasional; cramps across the stomach, and in the thighs and hips, which elicited much complaint; catamenia regular, but defective in quality and quantity; micturition difficult, but the secretion of urine abundant.

On the 3rd of June her general symptoms had considerably improved, and she expressed herself as being "much better;" pulse 86, and freedom from pain; appetite improving, evacuations more natural, and she felt stronger. On the 4th of June I was called to see her immediately, as she had been taken worse; and upon my arrival (in about ten minutes after I had been summoned) she was dead. I understood from her attendants that the only symptoms complained of immediately prior to death, were acute cramps in the left thigh, thirst and faintness, and that she expired almost instantly without a struggle. The above symptoms not being such as to lead to the apprehension of such a sudden result, I requested and obtained permission to make a post-mortem examination, which I effected thirty-six hours after death.

All the abdominal viscera were perfectly healthy, but congested. The mesentery contained a few calcareous deposits. Upon laying open the chest, the lungs proved to be quite sound; the pericardium contained the usual quantity of water, but the right auricle of the heart was distended with a polypus excrescence about the size of a large French walnut. The polypus was attached by numerous pedicles to the internal surface of the auricle, and the pedicles being interwoven with the musculi pectinati. It was of a pale-fleshy colour, its general substance being granular, soft, but consistent; not exhibiting the slightest traces of recent blood or coagula in any portion of it, but containing a small quantity of yellowish lymph in the centre. Similar masses, but very much smaller, were found in all the other cavities, excepting the left ventricle, which was entirely free. The external surface of the heart was much studded with fat. No other disease existed.

The above case was regarded as one of inflammatory congestion of the liver, stomach, and duodenum; and the treatment consisted in the free application of leeches, blisters, and mustard cataplasms, saline aperients, with occasional mercurial alteratives and anodynes to procure sleep. The only symptom betraying any cardiac affection was the laborious respiration, with healthy lungs, and without cough or expectoration; and this even was not continuous, but subject to temporary aggravations. The physical peculiarities presented by the presence of these extraneous bodies in the heart, appear to be very uncertain and obscure, and in a practical view probably of little importance, inasmuch as no remedies could be made available for their removal, could their existence be clearly proved. The suddenness of death in the present case, is, of course, easily and justly ascribable to the presence of this foreign body in one of the cavities of the main organ of the circulation; but it would be interesting to be able to decide whether the gastric irritation was the original cause of the adventitious formation, and whether the venous congestions, which subsequently attacked the abdominal viscera, were dependent upon the difficulty of the mechanical transmission of the blood through the heart. I can hardly imagine such an unusually large polypus, so complete in its structure, to be hastily developed, either prior to or after death, and to be altogether unconnected with the general disturbance which was manifested. If the growth of these productions depended solely on gastric irritation, the very considerable relief afforded in this case by the remedies employed, would certainly have retarded its increase, and thus the fatal termination may have been delayed; whereas, with progressive improvement in the general features of the case, the death was sudden and unexpected. One great and perhaps the only advantage, in being enabled to form a correct prognosis, would be to prepare the friends for the usual result, which otherwise must prove an unexpected and afflicting shock.

ON THE RESULTS OF DIFFERENT DEGREES OF

VIOLENCE TO THE EYE.

By EDWARD HOCKEN, *Esq., Surgeon, Exeter.*

THE symptoms which may result from blows on the eye are, first, immediate amaurosis, dependent on injury inflicted on the retina; 2ndly, Acute internal inflammation, preceded or not by more or less injury of the textures of the globe, effusion of blood, &c.; 3rdly, Aquo-capsulitis, with ulcer of cornea. Now, as regards the supervention of any one of these forms, I would suggest

that it is entirely dependent on—1st, The condition of the eye at the time of the reception of the injury; 2ndly, The degree of violence of the impinging body; and, 3dly, Its peculiar form, whether obtuse or angular.

It is a fact well established, that amaurosis will occasionally result from insignificant degrees of violence, provided that the eye be unprepared at the time of the accident; hence we may draw the conclusion, that no great force is required to injure the retinal organisation, to separate it from its surrounding connections, or to rupture its blood-vessels, provided that such violence act directly on the retina, during the unprepared condition of the globe, and be not resisted and expended by the closure and tension of the lids, and by retraction and tension of the eyeball by its own muscles.

But should the violence be great, the natural means of protection may prove inadequate, and the retina be paralysed, with or without injury or displacement of other parts, although this is less frequent. We may thus account for apparent incongruities, and rationally explain how one man has become permanently blind from simple compression, as in the case narrated by Beer; and another escapes entirely, or comparatively, uninjured from the application of much greater violence. But, besides the degree of violence inflicted, and the condition of the organ at the time of its occurrence, the result is much dependent on the nature and shape of the inflicting body. Thus I can confidently state that amaurosis is seldom, if ever, produced by sharp or angular bodies, which expend their impetus on the superficial parts of the eye, and give rise to peculiar morbid actions; but, on the contrary, that obtuse substances exert their influence on the deep-seated textures, paralysing their functions, rupturing their blood-vessels, or disorganising their structures, frequently giving rise to active and disorganising inflammation, should appropriate prophylactic measures be neglected, or injurious treatment be adopted. The impingement of angular bodies on the cornea, the part almost always struck, gives rise to aquo-capsulitis, soon followed by its peculiar secretion, constituting hypopion, unless previously subdued by adequate treatment; a deep and extending ulcer of the cornea, which too frequently becomes penetrating, causing prolapsus and adhesion of the iris; or may cause loss of sight by opacity, or complete destruction of the cornea. When inflammation, on the other hand, is induced by blows from obtuse substances, it shows itself in the form of more or less complicated retinitis, which may terminate, still deserving such an appellation, or may spread, involving in its progress the various textures composing the globe, or even the appendages, and thus terminate in confirmed ophthalmitis.

Exeter, July 14, 1840.

NEW PROPOSITION IN TRACHEOTOMY.

To the Editor of THE LANCET.

SIR:—I am induced to trouble you with the following short communication, from a conviction that this operation, as it is usually performed, viz., by dividing the rings of the trachea, has a disadvantage which, in the majority of cases, becomes very apparent; I allude to the frequent contraction in the diameter of the trachea at the point of division, after cicatrisation has taken place. This has obliged, and constantly will necessitate, the surgeon to make a fresh aperture in the trachea, that the patient may breathe freely through a silver tube. To obviate this, I propose that, after the incision has been made through the various textures down to the trachea, the isthmus of the thyroid body pushed upwards, the plexus of vessels downwards and laterally, the surgeon should then, with the index finger, feel for the membrane connecting the rings of the trachea: this can, with care, be ascertained. The point of the knife is then to be carefully passed through the membrane, between the rings, with the back of the instrument directed from the mesial line; thus preventing the vessels from being injured. An incision can then be made, of sufficient size, to introduce the end of the canula between the rings. Thus, by preventing the elasticity of the rings from being destroyed by their division, the cause of contraction is completely removed. The canula, which must be employed in this operation, will differ somewhat from that in general use. The annexed sketch will illustrate what I

allude to. It must be of an oval form, flatter than those now in use, and curved in the contrary direction. It will, from its shape, pass very easily between the rings of the trachea, and can, with equal facility, be retained in its proper situation. I remain, Sir, yours most respectfully,

EDW. CLARKE.

50, Rankeillor-street,
July 10, 1840.

A Manual of Pharmacy for the Student of Veterinary Medicine; containing the Substances employed at the Royal Veterinary College: with an Attempt at their Classification, and the Pharmacopœia of that Institution. By W. J. T. Morton, Lecturer on Veterinary, Materia Medica, &c.

Mr. Morton is already most favourably known to the veterinary profession, in the double capacity of an author and lecturer on materia medica and pharmacy,—a branch of science which has been greatly improved, and most usefully advanced under his hands. Of the truth of this statement no better evidence need be desired, than the perusal of the second edition of the valuable and practical work which we have now before us. Previously to the publication of this work, the veterinary student was unsupplied with any native and correct means of appreciating the extent and application of his materia medica; and although Mr. Morton speaks modestly of his labours, we can assure our readers that they will find in them a manual not only fully adequate to the application it has assumed, but also one which is commensurate with the present standard of science in this department. Some hints interspersed in the work might be considered with advantage by the prescribing members of our own profession.

"In the pharmaceutical formulæ," says the author, "I have studied simplicity. It will be seen that I have avoided all deceptives, and yet circumstances may render their addition necessary."

The work is preceded by a classification, in a tabular form, of the medicinal substances used in veterinary practice, according to their therapeutic properties. This table is open to several objections; but as the author styles it an "attempt," we shall pass it over without criticism. The precise *modus operandi* of medicines must at all times be a difficult point to decide, and in a table like the present, where practical utility and not scientific theory is the object in view, it would be an unworthy office to overlook important advantages in seeking for faults. In the table before us the medicaments are divided into two principal groups—those which may be administered internally, and such as are applied externally. Of the former we find four classes: 1. "Medicines which act upon the alimentary canal, or its contents." 2. "Medicines which act upon the brain and nerves, and, through them, on the system generally." 3. "Medicines which act through the medium of or upon the glands." 4. "Medicines which act upon muscular fibre." The external applications are, "Medicines which act upon the skin and external parts by direct application."

Of the administration of calomel, it is interesting to remark the comparative influence of the medicine on man and on the domestic animals. Of iodine, the author remarks,—

"The action of iodine and its compounds is most seen on glandular structures and newly-formed parts, for which they seem to manifest a decided preference. * * * A case illustrative of the effects of iodine upon the glandular system has been related to me by Mr. Wardle, who employs this agent largely, and with considerable success. He had been during some weeks exhibiting the iodide of potassium, and also applying it externally to a bull, for an enlarged parotid gland. The reduction of the swelling having been accomplished, his attention was directed to the testes of his patient, which had become much diminished in size; and it was also found that he had lost the power of procreation. Four months' generous keep, however, effectually restored the lost function, and the parts returned to their pristine state."

Several of the diseases which affect man are also observed among animals; and the practice calculated for their relief may be advantageously studied by both classes of practitioners. Thus, of the influence of lead upon the system of the domestic animals, we read,—

"Horses and cattle in the neighbourhood of lead-works are, by the slow introduction of some of the mineral into the system, either by their drinking the water impregnated with the carbonate, or eating of the herbage on which an oxide may have lodged, and which quickly becomes carbonated, very subject to affections of the bowels, accompanied with violent griping pains and constipation (colica pictonum), which commonly prove fatal. The approach of the disease is indicated by a disordered state of the stomach, and a morbid appetite."

The ergot of rye, a medicine used with such various results in man, has been had recourse to among the domestic animals in difficult and protracted parturition:—

"The dose either for the mare or the cow may be from ℥ij to ℥iv in powder, given in ale or beer, and combined with some carminative, which may be repeated every hour: to the sheep from ℈i to ℈ij; to the dog from five to ten grains. It acts as an excitant to the parturient uterus, causing contraction of it, and therefore it should not be used until

the regular throes are considerably diminished, and the pauses between them have somewhat increased. I know of but one instance in the mare in which it has been employed, and that was with success."

In respect to aloes as a medicine applicable to animals, the author says :—

"Such are the peculiarities of the bowels of this animal (the dog), that, while a man can take with impunity as much calomel as would kill two large dogs, a moderate-sized dog will take a quantity of aloes sufficient to destroy two stout men. The smallest dog can take fifteen or twenty grains: half a drachm is seldom too much; but the smaller dose had better be tried first, for hundreds of dogs are every year destroyed by temerity in this particular."

In taking our leave of Mr. Morton's work, we would earnestly recommend it to those of our brethren in the country who are occasionally and sometimes frequently called upon to administer to the ailments and diseases of their own as well as their neighbours' horses and cattle. It is distressing to the cultivated mind to see pain, without possessing the means of alleviating it, even in the brute; and in a country where so many of our comforts are derivable from the assistance of the brute creation, it becomes the duty of every surgeon to have one corner of his book-shelf occupied, with a means, in the absence of the professed veterinarian, of stretching the arm of succour to the suffering beast. To the veterinary student and practitioner the "manual of pharmacy" must be indispensable; and that it "may assist in prospering their efforts for the advancement of their profession," must be the sincere hope and wish of every benevolent mind.

The Library of Medicine. Arranged and Edited by ALEXANDER TWEEDIE, M.D. London: Whittaker and Co., 1840, 8vo, Vols. I, II, III and IV.

A WORK, entitled "The Library of Medicine," is in course of publication by Messrs. Whittaker and Co., under the immediate superintendence and direction of Dr. A. Tweedie, who was formerly co-editor with Drs. Forbes and Conolly, of the "Cyclopædia of Practical Medicine." Four volumes of this work have already appeared; they are similar in size and appearance to those comprising the well-known "Cabinet Cyclopædia" of Dr. Lardner, and are neatly printed on good paper. Each volume contains from three hundred and fifty to four hundred pages of matter, very closely printed in a small type, but clear to those who can see well. Dr. Tweedie, we presume, pays his contributors by the sheet, and like a prudent editor is determined to get as much out of them as possible. As far as quantity, then, goes, we have nothing to object to the volumes of the "Library of Medicine;" but the quality is what a tea-dealer would call "mixed," i. e., appertaining to a substance composed of a little "green," some "congo," and a considerable share of sloe-leaves. The first volume of the "Library" contains an introduction by Dr. Symonds; an article on inflammation by Dr. Alison; one on the general doctrine of fever, and on continued and hectic fevers, by Dr. Christison; on plague, ague, remittent and yellow-fever, by Dr. Shapter; on the infantile, remittent, and puerperal fevers, by Dr. Locock; on small-pox by Dr. Gregory; on measles and scarlatina by Dr. G. Burrows; and, finally, on diseases of the skin by Dr. H. E. Schedel, of Paris. This volume, then, embraces inflammation, the numerous family of fevers, and diseases of the skin: it is extremely well written; we wish that we could predicate the same of the other volumes. This reminds us of an anecdote. A certain Pope was invited to expel from Rome a class of ladies who exposed their charms to public view in a manner which the conclave regarded as bordering on the indecent. "Pardon them," said the charitable father; "they only resemble those prudent landlords, who decorate and exhibit their first floors, in order to let the more obscure apartments underneath to greater advantage." Dr. Tweedie, by instinct, or by imitation, seems disposed to follow this laudable example; his first floor is most attractive; whether it will enable him to dispose of the cellars, time alone can tell.

The reader may already divine, through a mist, darkly, our general impressions respecting the "Library of Medicine," for, from the nature of the work, we must confine ourselves to generalities; but that there may be no mistake, we shall express ourselves more explicitly. We approve of the plan which Dr. Tweedie has adopted. Each volume is devoted to a separate subject, and may, we presume, be purchased separately. The first, for example, to fevers; the second, to diseases of the nerv-

ous system, the eye and the ear; the third, to diseases of the heart and organs of respiration; and the fourth, to diseases of the abdominal organs. The execution of the different articles which compose the four volumes is extremely unequal. The first volume, as we said, is an excellent one, but seems to have left the learned editor in the condition of many a celebrated quadruped before him, i. e., dead beat after the first heat; the Doctor has run himself out of wind at starting. Thus, in the second volume, we have pathology of the nervous system, and inflammation of the brain, by Dr. Hope; hydrocephalus, hydrophobia, apoplexy, epilepsy, paralysis, and a host of minor articles, by Dr. John Hughes Bennett; insanity by Dr. Prichard, &c. While the third volume is exclusively occupied by Dr. Williams on diseases of the lungs, and Dr. Joy on diseases of the heart. The first question which naturally suggests itself, on looking over the preceding list of subjects and authors, is, how could Dr. Tweedie, who should know something, at least, of editorial duties, take "diseases of the heart" from Dr. Hope to give them to Dr. Joy? Dr. Joy compiled some respectable articles on the diseases of children for the "Cyclopædia of Practical Medicine;" but what pretension can he have to write on diseases of the heart? Above all, how could he replace Dr. Hope on this subject, which the latter has made so completely his own? The articles of Dr. Hope, on the pathology of the nervous system, and on inflammation of the brain, furnish evidence that they have been written by a sound practitioner, whose views are based on clinical experience; still they want that character which is derived from special study. Dr. Hope, on diseases of the chest, would have produced something of a much more elevated stamp. The bulk of the articles in the second volume is from the pen of Dr. John Hughes Bennett; we say *pen*, for, were we to judge from the present effusions, we should say that Dr. John Hughes Bennett does not possess one particle of brains. We do not know who this gentleman is, nor whence he comes, nor (for Science's sake) do we care whither he goes, but more miserable trash than his essays it never fell to our lot to peruse; they are a disgrace to Dr. Tweedie, and will, assuredly, inflict "a heavy blow and great discouragement" upon his work. Dr. Tweedie does not seem to have even read the articles "inflammation of the brain" and "hydrocephalus," before they were committed to the press. The latter article is, to say the best for it, superfluous, because the disease had been sufficiently well and completely described by Dr. Hope, under the term acute meningitis; in the second place, it is contradictory, in the most essential point, of the preceding article by Dr. Hope. Dr. Hope, with every other practical physician of the present day, regards acute hydrocephalus as a variety of acute meningitis, "confined to a moderate extent of the membranes at the base of the brain, or within the ventricles, and not propagated beyond a moderate extent into the cerebral substance." Dr. Bennett, either from pure ignorance or conceit, describes hydrocephalus to be an abnormal collection of serous fluid within the cranium (he speaks, be it observed, of *acute* hydrocephalus). So much for Dr. Bennett's theory; his practice, as might be expected, is of a piece with his theory. For example:—

"We have already stated (says Dr. Bennett) that at an early period it is impossible to determine whether the symptoms be those of acute hydrocephalus, or of other affections to which they are common. (What other, if you please?) This, fortunately, is of little consequence in a practical point of view, as the treatment of these symptoms must be guided by the same general principles, whatever be the morbid conditions which may ensue."

What a precious maxim for the guidance of the young practitioner! Whether the cerebral symptoms arise from dentition, at the onset of exanthematous fevers, or from any other cause, they are to be treated in the same way. Dr. Bennett may regard this as a *fortunate* discovery, but we do not, nor would his patients either. Again, Dr. Bennett informs us, at the close of his lucubrations, that the hydrencephaloid disease is only a variety of acute hydrocephalus; although he does not condescend to tell us when this notable fact was established, nor by whom. Diseases of the lungs and respiratory organs, are described by Professor Williams, of University College, in a masterly manner. One or two chapters, however, are very inferior to the others. That on croup, for example, is an abridgment from beginning to end of the article, by Dr. Copland, on the same sub-

ject, in the "Dictionary of Medicine." This retailing of second-hand matter is unworthy of the position which Dr. Williams holds as a professor of medicine, and as a scientific physician. If the articles of Dr. Copland (many of which possess very little that is original), are to be transferred to the "Library of Medicine," let the reader be told so fairly. It is unwise and unjust to allow him to imagine that he is enlightened by the opinions or experience of Dr. Williams, when he is merely reperusing the article of Dr. Copland, with hardly any change of phraseology to disguise the source whence it has been derived.

We recommend this point to the attention of the Editor, if he would ensure the success of the "Library of Medicine" (and it must be rather a heavy undertaking for the publishers), he must amend much, and omit a great deal.

UNIVERSITY COLLEGE HOSPITAL.

SARCOMA OF THE SCROTUM.

J. M., aged 39, was admitted June 11, under the care of Mr. Liston; he is a working engineer, and has always enjoyed good health. Two years ago he suffered from hydrocele, caused by a strain; the hydrocele was tapped; after the operation he exerted himself and inflammation took place, which was reduced by leeches and fomentations; but a swelling, the size of two fists, remained. It continued of this size for two or three months, occasionally increasing and becoming painful whenever he caught cold, which occurred several times. He applied to two surgeons for advice respecting the swelling; one of them punctured it, and let out some blood; the other applied mustard poultices and ointment, but without benefit.

He was afterwards treated by a quack, who applied some escharotic to the tumour, and caused three sloughs. He measured the tumour three weeks since, it was sixteen and a half inches in circumference, and weighed three and a half pounds.

On Admission.—The scrotum is exceedingly swollen, measuring 20 in. in circumference; the skin appears much thickened, and hard and firm to the touch. There are three ulcerated spots upon it, from which fungous growths have protruded; the veins on the surface are very much enlarged; the left testicle can be felt perfectly healthy; the right is much enlarged and indurated, but does not appear to occupy the whole extent of the swelling of the scrotum. It seems to be situated in the upper part, for here pressure causes the dull, heavy sickening pain, which is usually felt on pressing this gland; no painful sensation is produced by pressing the lower part of the tumour. There is a considerable discharge from the ulcerated surfaces. The cord on the right side appears perfectly free. The glands, above Poupart's ligament, are not enlarged, neither are those in the course of the iliac artery. The glands in the groin below Poupart's ligament are somewhat increased in size. His general health is not much affected; he is somewhat pale, but his countenance is not particularly sallow. The tumour is very heavy, and in some places elastic; the penis is not encroached on by the tumour. He has had some difficulty in making water during the last two or three days. Mr. Liston determined to remove the disease.

June 14. An incision was made from the upper part of the cord down to the base of the tumour, and another in a similar direction, meeting the first at each extremity so as to inclose an elliptical portion of integument, in which was contained the ulcerated patches of fungous protrusions; the cord was then isolated, and a piece of tape tied round it, and then divided below the tape. The skin was dissected off the fore part of the tumour, which was then seized at its upper part, turned downwards, and rapidly dissected from the skin. Two arteries in the cord, which bled freely, were tied. There was a good deal of venous hæmorrhage from the large veins that were divided, but it soon stopped. Cold water was applied to the wound, and in about six hours the parts were brought together. The other testicle was exposed during the operation, and the tunica vaginalis slightly opened; it contained some fluid. A single ligature brought together the divided tunica vaginalis. Sufficient of the posterior part of the scrotum was left to fold upwards, and form a very good covering for the remaining testicle, and to conceal the large wound that had been made; the divided parts were retained in position by four stitches and some strips of adhesive plaster.

16. Going on favourably; there is some suppuration; the stitches were removed.

18. Wound beginning to unite; a small corner is left open through which the discharge escapes; his health is much improved; he has no irritative fever, and feels very comfortable.

21. Wound nearly united.

July 14. He has been going on quite well up to the present time; he caught a cold yesterday, and is suffering under its influence. The scrotum is all but healed. In the first instance so much skin was saved, that a very efficient scrotum was formed, and it is now quite perfect.

EPULIS, REMOVAL OF A PORTION OF THE LOWER JAW.

W. L. was admitted June 8, under Mr.

Liston. Six months ago she had bad teeth in front of the lower jaw, and perceived some slight swelling of the gum between the front teeth. This gradually increased, displacing the teeth, until the present time. It has never been painful, and does not discharge.

At present she has a swelling in front of the lower jaw, about the size of, but longer, than a nutmeg, involving the base of five teeth. It is but slightly elastic, does not discharge, and is exactly similar in texture to the gum. It only involves the upper part of the alveolar process. Mr. Liston determined on removing the tumour, and the alveolar process from which it arose. An incision was made with a crooked knife behind the tumour; the lower lip was then somewhat separated from the lower jaw, and the soft parts at the base and side of the tumour divided. The alveolar process was then sawn down on each side of the tumour, and the whole nipped across with a pair of cross-cutting forceps. Some lint dipped in cold water was applied to the part, and the hæmorrhage, which was but slight, soon ceased. No dressing was applied.

June 11. The patient is walking about as usual; the parts in the mouth are healing fast; she suffers no pain, and there is now but little salivation.

23. The parts are quite healed, and the patient well.

LACERATED WOUND OF THE AXILLA.—FRACTURE OF THE CORACOID PROCESS.—DEATH.

C. S., aged 28, was admitted May 28, under the care of Mr. Cooper. He was brought into the hospital about half-past 11 A.M. While trying to stop a horse he was knocked down, a cart-wheel passed over his shoulder, and pressed a gimlet he had in his pocket into his axilla. On examination, it was found that the gimlet had entered the axilla to the depth of an inch and a half, producing a wound that would admit the fore-finger. The instrument had passed close to the axillary artery, and had wounded the axillary vein. He did not suffer much pain when the arm was moved. The bleeding soon stopped. No application was made.

11. There is a good deal of pain about the joint, and it seems as if some air had got into the cellular tissue; there is also a sensation of crepitus as if the neck of the humerus were broken. There is a great deal of vascular excitement, the skin is hot, the tongue coated, and there is some twitching of the muscles. He was bled to sixteen ounces, and was ordered a dose of calomel with a saline aperient mixture. The arm was kept to the side of the body, and fomentations applied to it. In the evening his countenance became anxious, the pulse a mere thread, and 140; tongue much furred in the centre, and white. There is less twitching of the hands; he answers sharply when spoken to; his complexion is pale and yellow. There is some distension of the veins of the left arm, and a great deal of pain in the axilla.

12. Passed a restless night; countenance very anxious and sallow; tongue yellow, and thickly coated, not very moist; thirst; bowels open yesterday; the left shoulder very much swollen, tense and painful; left arm also much swollen; no pulsation can be felt in the left wrist; pain in the situation of the subclavian vein; the impulse of the heart extremely feeble, its sounds cannot be heard; pulse 140, and very weak; some twitching of the hands; no delirium; not much pain about the bruised parts. He continued in much the same state until 12 P.M., when he died.

APPEARANCES AFTER DEATH.

The body was examined twenty-four hours after death. There was a large quantity of blood extravasated under the skin about the shoulder; under and between the pectoral muscles, in the cellular tissue of the axilla, neck, &c. The dissection was not made with sufficient care to ascertain what vein was wounded, but the instrument seemed to have passed up behind the axillary artery and vein towards the posterior fold of the axilla: the axillary vein did not appear to have been wounded. The axillary and subclavian veins of both sides were plugged with coagulated blood: it was doubtful whether there was any trace of inflammation in their coats. The heart was plugged with a firm and adherent coagulum: this coagulum adhered most firmly to the surface on the right side of the heart, and particularly to the tricuspid valves having, evidently, taken place before death; and accounting for the slight and feeble sound of the heart; the other parts were healthy. The coracoid process was fractured, but no other bone.

EPULIS, REMOVAL OF A PORTION OF THE LOWER JAW.

In this case, also under the care of Mr. Liston, the patient was thirty-six years of age, and was admitted into the hospital on the 24th of June. She has been suffering from bad teeth for five or six years. Her teeth are extremely crowded in front of the lower jaw. Eight months ago she perceived a small swelling, similar to a gum-boil, opposite the lateral incisor on the left side. She suffered very severely from cold in the face when the tumour first began. This pain went off, but the tumour remained, and has increased gradually to the present time: it has caused no pain, and there has been no discharge from it.

At present she has a tumour in the lower jaw, displacing the incisor and canine teeth of the left side: it is hard and elastic, and similar to the gum in consistence and ap-

pearance: it does not extend to the base of the jaw, and is not painful. Mr. Liston determined on removing the tumour with the alveolar process to which it was attached: an incision was therefore made in the gum on each side of the tumour, the alveolar process sawn down with a small saw, and the piece snipped out with a pair of cross-cutting forceps. The alveolar process supporting the canine tooth on the left side, and all the incisors were removed. No dressing was applied.

June 30. The wound is healing rapidly: she is suffering no pain, and is quite comfortable.

July 10. Discharged, cured.

TUMOUR OF THE NECK.

W. L., aged 42, was admitted April 30, under Mr. Liston: he is a labourer. About four months ago he felt his neck a little stiff, and had some difficulty in moving it. This was succeeded by difficulty of breathing, which continued about two months. He found also some obstruction in swallowing; his head ached; his shoulder and the under part of his arm were painful; he had also some pain in the chest. About six weeks ago, he first perceived a swelling at the anterior edge of the sterno-mastoid muscle, which gradually increased in size.

At present he has a tumour of about the size of a hen's egg, projecting from under the anterior border of the sterno-mastoid; the skin covering it is perfectly healthy, and moveable. The tumour is not very moveable, and appears as firmly connected with the sterno-mastoid, as though the lower part of that muscle were involved in the disease. The swelling is round, even on the surface, very firm, and non-elastic: it appears circumscribed, is not painful when handled, and gives no pain except what is caused by pressure on the surrounding parts. His general health is not good; he complains of pain in his chest and back, which, he says, he has felt for some time; his countenance is sallow.

May 7. The tumour remains much the same, as on his admission.

12. Mr. Liston wishes him to go into the country for a month, and to return, in order that he might see the state of the tumour.

June 10. This man again presented himself at the hospital to-day. The tumour has increased to twice the size it had a month ago; it begins to press on the windpipe, and impede the breathing. The tumour covers the upper part of the sternum, and appears to have extensive connections: there is an enlarged gland a little external to the swelling. Mr. Liston declined interfering in this case, and the man was discharged, incurable.

CYSTIC SARCOMA.—TUMOUR OF THE BREAST.—OPERATION.

M. B., aged 40, was admitted April 26, under Mr. Liston. She is married, but has never had any children. Six years ago, she first perceived that the right breast began to enlarge. She could not attribute it to any cause, and she recollected no blow, or any other kind of injury on that part. When she first perceived the enlargement, the breast was painful. The swelling was not limited to any particular part, but appeared to involve the whole breast. A surgeon applied leeches and other remedies for nineteen weeks, at the end of which time the enlargement was the same, but the pain was materially lessened. The tumour gradually increased in size for about five years, not giving her much pain, except when pressed or struck. During the last year the tumour has increased much more rapidly, and has become more painful. At present her general health is good; her countenance not sallow; catamenia always regular; appetite good; the right breast is enlarged to about double the size of the left. It appears occupied by a tumour, which feels hard, lobulated, and very heavy. It is perfectly moveable on the pectoral muscle, and seems quite circumscribed by a cellular cyst. The skin is not adherent to it, nor is the nipple retracted. The skin is quite healthy; the veins a little enlarged; the tumour is occasionally a little painful at night, but generally free from pain. Handling it gently does not produce pain. The glands in the axilla and above the clavicle are not enlarged. Mr. Liston considered the tumour of a harmless nature, and determined on its removal.

27. Mr. Liston removed the tumour in the usual manner. An elliptical portion of the skin, about half an inch wide, including the nipple, was removed with the tumour. It was found that the tumour had grown on the side of the mammary gland, of which it had caused displacement and absorption, but was unconnected with it. It was lobulated, and surrounded by a cellular cyst. When cut into, it was found to be fibrous, and contained several small cysts. Three arteries only were secured; the wound was dressed in the evening.

28. The patient slept well; the pulse is quiet; and there is very little irritative fever. No thirst or heat of skin.

30. There is some slight erythema about the wound. Ordered some saline medicines and fomentations. The sutures were removed yesterday. A great part of the wound is united.

May 2. The erythema has ceased, the wound is nearly healed, and her general health good.

20. Discharged, cured.

SARCOMATOUS TUMOUR UNDER THE LOWER JAW.

J. O., aged 34, was admitted April 18, under Mr. Liston. He has good health, and is of regular habits. Twenty-five years ago, a small, hard swelling was observed under the jaw on the left side. It was not painful; increased but very little during the first fifteen years; and was not at this time much larger than a chestnut. About five years ago, it began to increase more rapidly. He applied to a surgeon, who gave him some ointment, which he used externally. It was also leeched, and he took some drops internally.

At present he has a large tumour, about the size of the fist, under the jaw, on the left side, extending from the angle nearly to the symphisis, and passing down on the neck. It is hard, lobulated, and moveable, having no connection with the jaw or the surrounding parts. On passing the finger into the mouth, a portion of the tumour appears in pretty close contact with the mucous membrane. This part must have passed behind the mylohyoid muscle. The integument covering the tumour is quite healthy. The tumour appears of a sarcomatous character, and Mr. Liston decided on removing it. An incision was made under and in the direction of the jaw, and another perpendicularly, in the centre, and at right angles with the preceding. The flaps were dissected back, and the tumour gradually removed from the surrounding parts, to which it was firmly adherent. The cellular cyst, covering the tumour, was firmly united to it, probably from the friction which had been applied. Cold-water dressing was applied, and, in the evening, the integuments were brought together by three sutures.

During the operation there was very profuse venous hæmorrhage, probably from the veins. Two arteries, apparently small branches, supplying the tumour, were divided and secured, as was also the submental. The venous hæmorrhage was very much increased by the cries of the patient.

14. He has passed a good night, and is going on well. There is no fever, and the wound appears to be healing.

20. Some of the stitches were removed on the 15th. There has been very little bagging of matter, and the wound is nearly healed. His health has not suffered.

27. The wound is quite healed; the remaining ligature came away to-day. There was a little swelling of the flap, but otherwise the patient was quite well, and was discharged, cured.

FIBROUS TUMOUR UNDER THE JAW.

J. R., aged 28, was admitted June 10. Sixteen years ago, she first perceived a slight swelling in the region of the left submaxillary gland. It was not painful, and has increased gradually up to the present time.

The tumour has never given her much pain, and has never been larger at one time than another. Within the last year it has increased somewhat more rapidly.

At present, she has a hard, lobulated, firm tumour, situated in the region of the left submaxillary gland. It presents a knobby appearance, but is not very apparent externally, as it seems to slip in behind the mylohyoid muscle, and lies in contact with the mucous membrane of the mouth; it appears to be about the size of a small orange. It is not painful on pressure; is tolerably moveable; not at all adherent to the skin covering it, which is perfectly healthy; the superficial veins are not enlarged. Mr. Liston, considering this tumour to be similar to the one described in the last case, advised its extirpation. Accordingly, on June 12, the operation was performed, in a similar manner to that described in the last case. The tumour not being so large, the incisions under the jaw were not so extensive. The tumour was somewhat adherent to the submaxillary gland, which latter was perfectly healthy, and was not removed. The facial vein was divided during the operation, and was secured with some little difficulty. A considerable oozing of venous blood took place after the operation; but the hæmorrhage was arrested by placing the patient in the perpendicular position. The parts were brought together by a few points of suture. On examining the tumour, it was found to resemble the one removed in the previous case, except that it contained more earthy matter.

23. The wound has nearly healed without any untoward accident.

Discharged, cured, in the beginning of July.

CHARING-CROSS HOSPITAL.

GANGRENE OF THE LUNG.—RECOVERY.

Henry Mulloy, an Irishman, 34 years of age, was admitted May 18, under the care of Dr. Chowne. He is of light complexion, short, muscular, and firmly built. A week before his admission he had been subject to cold whilst at work. The exposure to cold was followed by a rigor, which ushered in a severe attack of pneumonia, attended with acute pain and distressing cough. He was freely bled and blistered, and subjected to other antiphlogistic treatment by the medical man under whose care he placed himself. When admitted into the hospital, the inflammatory stage of the attack had subsided; but he still laboured under almost incessant cough, with abundant expectoration, amounting to three or four pints in the twenty-four hours. The countenance was somewhat florid; the pulse 90, regular, and moderately full; the alvine

and other functions natural; the cough was attended with but little pain. He did not suffer much on taking a full inspiration. The expectoration, in addition to being very copious, was sanious, of a brownish-red colour, verging in some parts towards a green. The red colour was so marked, that it was evidently an exudation from blood-vessels. The odour of both the sputa and the breath was excessively fœtid. There was no part of the chest which was entirely dull on percussion, nor could any spot be detected where the respiration appeared to be wholly suspended. Strong mucous râle was audible in most parts of the thorax. The complexion, the state of the pulse, the general strength of the patient, and the tendency to hæmoptysis, were all contra-indicative of the use of such tonics as might have been necessary, had the gangrene been the primary disease, and a consequence of debility, accompanied by extreme depression and typhoid tendency. Acid mixture was prescribed with the pill "saponis cum opio" at bed-time, to diminish the irritability of the lungs, and procure sleep.

22. The expectoration is mixed with blood: the countenance rather florid; pulse rather hard; general state, that of fever. He was bled to eight ounces.

After this the general character of the expectoration continued to improve; the colour was less brown; it had more the appearance of muco-purulent expectoration, and its odour was less offensive.

June 13. There was a return of hæmoptysis to-day. He was again bled to eight ounces, and a blister was applied over the scrobiculus cordis, at which part he had pain. At this period, twenty-six days after his admission, the disease had lost the characteristics of gangrene of the lung, and had those of hæmoptysis.

29. He again expectorated blood to-day. He was again bled, and had a large blister applied over the sternum.

July 17. Since the last report there has been no hæmoptysis; there has, however, been a considerable preponderance of mucus in the sputa, and it is now wholly free from the colour and odour which were at first so predominant. The quantity has been gradually reduced to a few ounces a-day, and the patient continues improving in strength. The treatment has consisted in the occasional administration of mild aperients. During the entire period of his illness he has been kept perfectly quiet, and has been confined to rice-milk and broth diet.

Dr. Chowne observed of this case, that gangrene of the lung was a disease of comparatively rare occurrence, even in an idiopathic form, but still more rare as a sequel of inflammation. When inflammation and gangrene of the lungs co-existed, the inflammation was, commonly, a consequence of the gangrene—a resource of nature to separate and throw off the gangrenous part. There was sometimes, and, indeed, not unfrequently, a fœtor of the breath and of the expectoration, the consequence of inflammation alone, and resembling both in kind and degree the fœtor of gangrene. In such cases, however, the sanious brown and greenish appearance was generally wanting. Although the case, from having proceeded favourably, necessarily precluded the possibility of arriving at absolute certainty as to the existence of gangrene, yet, so far as symptoms could be relied on, there was not any room for doubt. It might have been observed, that the case had been attended with less prostration of strength; less general depression and anxiety of countenance; less, indeed, of all the ordinary concomitants of gangrene than usual; but this appeared to have been attributable to the nature of the attack and to the stamina of the patient.

MISFORTUNE OF FALLING INTO THE HANDS OF A PHYSICIAN AND A SURGEON.

To the Editor of THE LANCET.

SIR:—Allow me to submit to your attention the following case. A person is placed in a hospital, under the care of one of the physicians, with an enlargement of the heart. The *physician* proceeds to allay the inordinate action of that organ by the use of digitalis, and to diminish the column of blood by venesection; but the person who is entrusted with the operation of bleeding opens an artery instead of a vein, in consequence of which a *surgeon* in the hospital ties the artery, thus leaving the heart, with its inordinate action, nearly a limb less to supply, increasing the column of blood in intensity; and not only wholly defeating the remedial intention of the physician, but also adding much to the mischief,—ending, in fact, in the death of the patient. Thus betwixt two stools the patient falls to the ground, apparently a sacrifice to an injudicious division of labour. This is only one case among fifty of the same kind that are equally possible. If the physician and the surgeon could be in complete and intelligible correspondence with each other, the result might be otherwise; but this intercourse is impossible. As well might one man, a geometrician, with another, an arithmetician, attempt to make between them one mathematician. Absurd as would be the experiment, yet its parallel is precisely found in the profession of medicine. The distinction between surgeons and physicians is not more ridiculous than it is, in many cases, fatally mischievous.

I am, Sir, your very obedient servant,

ROBERT STEVENS.

Kennington Common, July 27, 1840.

THE LANCET.

London, Saturday, August 8, 1840.

THE Report of the *Committee of the Provincial Medical and Surgical Association*, "*appointed to watch over the interests of the Profession*," is in some respects commendable; but several of its statements are calculated to give a very erroneous view of the sense of the Southampton meeting, and of the opinions of the members of the Association, and, we believe, of the Committee itself, or at least of half of the Committee. It contains doctrines as much at variance with common sense, as with the opinions of enlightened reformers; and the first portion is entirely incompatible with the sounder principles of the last paragraphs. We wish to treat the Reporter with tenderness, for we believe that he feels rightly, and only thinks wrongly; but as we have understood that Dr. BARLOW pertinaciously refused, even at the suggestion of Dr. FORBES, to strike the contradictions and nonsense out of his report, at the preliminary meeting, it becomes our duty to discuss them candidly, impartially, and without respect of persons.

Entering at once upon the discussion of the crotchets in the Report, it might be doubted whether the sentiments of the Reporter, in favour of Medical Reform, were sincere. But that Dr. BARLOW is a reformer at bottom—a reformer, it may be, with a good deal of mist about his imagination—a little changeful, weeping,—retiring, advancing,—waxing, waning, like the moon, or a Bath dowager, but still a reformer—is, we think, apparent, from the speech in which he seconded Dr. WEBSTER's resolution,—proposed with the approbation of all the deputations,—

"That it is highly important that further "steps should now be taken to obtain Me-"dical Reform, on the principles of *a uniform* "*test of qualification, and a representative* "*system of government*."

Dr. BARLOW said, he "was surprised that "any person should intimate a doubt as to "his opinions upon the *representative prin-*"*ciple of government, which he strongly ad-*"*vocated*. He had, however, felt so tena-"cious on the subject of qualification, as a "primary object, that the other had been as "it were kept out of view; but to show that "he entertained no difference of opinion "with his worthy friend on the subject, he "would beg leave cordially to second his "motion."—(*Worcester Journal.*)

This is explicit. The Committee congratulated the meeting on the number of petitions presented within the last year. The petitions presented to the House of Commons alone within the present session, up to the 1st of July, amounted to 92, and the signatures to 3125. The number presented in favour of Medical Reform now amounts to 173, and the number of signatures to 5019. The Committee justly remark, that in estimating these signatures, it must be borne in mind that a large portion of the petitions, though emanating from numerous bodies, were signed only by the presiding officers and secretaries:—

"And to all those who are acquainted with the habits of medical men, with their devotedness to their special duties, as well as the engrossing nature of these duties, and with the little disposition they ever evince to engage in political agitation even when their own immediate rights and interests are at stake, the fact of so many appeals to the Legislature having been made within the space of a few months, will be deemed incontrovertible evidence of the extent to which the want of reform is felt, and of the desire to have this want supplied."—(*Wor. Jour.*)

The following is the passage which was considered objectionable, and was indirectly annulled by the resolution already quoted:—

"So fully did the last Report of your Committee display the reforms needed, that but little further elucidation of their opinions in this respect can now be required. Your Committee still deem the qualification of the individual practitioner and the consolidation of the profession the main requisites; for until this be legally established no adequate organisation of the collective body, for the purposes of self-government, could be projected, or even imagined. It is for this fundamental provision that legislative authority is chiefly, if not alone, needed; and on this account your Committee are the steady advocates of making this object their sole aim,

until this essential point be gained. To intermix the subject of qualification and government, and to seek to comprise both in one legislative Act, would appear to your Committee eminently unwise. Qualification, and the necessity of rendering it uniform, is a simple subject, readily comprehended, and one on which but little difference of opinion can exist. On government, the variety of opinions will for a time be endless; and not until a duly-qualified profession is legally established will the confusion which now envelopes the question clear away, so as to admit of the principles, by which suitable government should be regulated, being distinctly discerned."—(*Worcester Journal.*)

Now, what does all this mean? And how would it work practically? What is the measure, and what is the machinery by which it could be carried into effect? The qualification is to be uniform; that is, the examination is to be uniform, and there is to be one examining Board. The profession is to be consolidated; in other words, there is to be one examining Board. Very well! And how is the *one examining Board* to be constituted? Who is to name the Examiners? The Senate of the University of London? Is that what you mean, Dr. BARLOW? Then the gentlemen who have passed the examination, and have proved, to the satisfaction of Dr. ROGET and COMPANY, that they possess the "uniform qualification," are to constitute "the duly-qualified profession!" And "*not until a duly-qualified profession is legally established will the confusion * * * admit of the principles, by which suitable government should be regulated, being distinctly discerned.*"

When the present generation of medical practitioners have passed away, and gone home to their fathers,—when some future generation shall possess a uniform qualification, and shall have been examined by the successors, perhaps then posterity, of the present ROGETS and PEREIRAS, when "a duly-qualified" profession is *legally* constituted—O, then, some glimmering of the principles, by which suitable government should be regulated, will begin to be "distinctly discerned." It is for this that Associations have been founded—that agitation has gone on—that petitions have been signed by thousands of practitioners!

The Committee supported its repudiated opinions by two or three reasons, which require but a brief notice. It appeared to them especially unwise to intermix the subjects of qualification and government. "Uniform qualification is a simple subject:" simple enough, no doubt; but it is not simple and plain that on government the variety of opinions will for a time be endless. There can be but two opinions upon the matter. Medical corporations exist; medical practitioners are members of those corporations; the councils are self-elective; and the councillors believe that the self-elective, irresponsible government which places the property of every member at their disposal, is the best. That is one opinion; and it is not likely to be changed by time. The members ask for self-government, and one responsible council. They demand as a right which has been conceded in the cases of other corporations, the power of electing, periodically, representatives to dispose of their funds, and to watch over their interests. That is a second opinion; and time is not likely to alter it, based as it is upon the principles of reason, utility, and eternal justice.

"The course of proceedings here indicated "comes (say the Committee) recommended "by other considerations. Any reorganisa-"tion of the profession must necessarily "disturb the several partial institutions "which have hitherto presided over it; and "whatever consideration can be shown to "those several institutions, consistently with "the principles on which the contemplated "reform is based, should be extended to "them." In this, reformers are agreed. But what is the consideration with which Dr. BARLOW proposes to treat the existing corporations? They derive their revenues almost exclusively from the sale of diplomas; the members are compelled to pay a sum of money down—a composition for an annual tax—and Dr. BARLOW proposes to deprive the self-elective councils of those revenues, while he leaves them the honours, names,

titles, buildings, and *government*, with his distinguished "consideration." There is to be *a uniform qualification, one examining Board*, —one faith, one baptism,—one set of admission fees, we would fain hope; and the Licence of this Board alone will constitute "legally-qualified practitioners."

Dr. BARLOW propounded his plan with great seriousness; but we cannot help thinking that he should leave these pieces of grave jocularity to Sir ANTHONY CARLISLE. What could he say in reply, if Sir ANTHONY, in one of the epistles with which he at times edifies the Editors of the daily papers, should make the following proposal?—

All the frequenters of watering-places shall, henceforward, proceed to Cheltenham, and go through regular, uniform courses, beginning with salines, and ending in chalybeates. Any comprehensive reorganisation of *water-drinking*, must necessarily disturb the several partial institutions which have hitherto presided over it. It must be expected that the Bath physicians, and the Pump-room proprietors, will be disinclined to changes which would divest them of privileges long enjoyed, and that they will strenuously oppose the meditated alterations. That their alleged claims should be suffered to obstruct a measure of great national utility, few will openly contend. Yet every possible *consideration* should be extended to those watering-places. With all their defects, *they have each had merits* that should not be forgotten. Such claims to *consideration*, it would be no less wise than just to recognise.

In this case Dr. BARLOW would estimate at its true value the "consideration" of Sir ANTHONY, which carried all the fees from Bath.

After all, the arguments in favour of "Educational Reform," are really arguments in favour of Corporation Reform—or they are no arguments at all. Mr. CARMICHAEL, with the courage, sincerity, and manly earnestness, which characterise him, observed—"*There must be a change in their present system of government, before any extensive amendment could be effected in education and qualification.* Scarcely any person could now be found to oppose Medical Reform; but he had no doubt that they would soon be assailed by whisperers—interested persons who would make underhand representations to members of the Legislature. The profession should be on its guard against these persons, and point out to their Parliamentary friends their real position and objects."

Mr. DODD, who had read an admirable retrospective address, on the previous day, asked—"Why not have a *properly constituted representative body* to govern them, and to regulate the education of the entire profession? To do this only required the exercise of unanimity, good will, and undiverted efforts among themselves. There was no doubt that as soon as this determination should be made, and become apparent, those persons who had hitherto been lukewarm in their cause would then immediately come forward and assist them."

Mr. CARTER, the deputy from the North of England Association, insisted eloquently on the importance of the representative principle.

Dr. WEBSTER thought it highly necessary and important "that the Association should go one step further than that indicated in the Report. It was well known that the representative principle had been recognised by all the Medical Associations now in existence, except that which he was then addressing. He therefore thought that a pledge to that effect should immediately be taken by the Society. In the many petitions which had been presented to the House of Commons on the subject, he was happy to say that the *representative principle* was not objected to by one."

The facts lie in a very narrow compass. The qualified practitioners of the present day are all members of medical corporations. Are they to have anything to do with the management of those corporations? Are twenty-one, or any other number, of self-elected, irresponsible gentlemen in London, Dub-

lin, or Edinburgh, to appropriate the public money, expend it as they please, dispose of the property, power, patronage, and interests of twenty or thirty thousand enlightened men scattered over the United Kingdom? Have the physicians, surgeons, general practitioners of the United Kingdom no fair claim to the franchise? Are they to be mocked for ever by the Councils of their own Institutions, and to be trampled under foot by the Poor-Law Commissioners, or by any other class of men, from the want of the energy and protection which a united, well-organised, representative corporation would give?

Does any one mean to assert, that the present generation of practitioners is unworthy of a free constitution; that we do not understand our own interests and rights, or are so besotted as to be incapable of selecting representatives who would promote science, study the public good, and uphold the honour of the profession? Are we to sow all for the next generation, and to reap nothing? Are our successors to surpass us so immeasurably, because they undergo a uniform examination? Our faith in the qualifications of the present race of practitioners is great. They have become what they are, intelligent, efficient, high-minded, in spite of the worst examinations, and the worst means of education that were ever devised by the ingenuity or wickedness of man.

The vagaries which we have discussed, are, as has already been stated, quite at variance with the sounder principles in the latter paragraphs of the Report. In the following statement, the meaning of the words "legally-qualified practitioners" is not very intelligible; and we see no stronger reason for depriving young men of the franchise than old men, whose prejudices and errors are more pernicious than inexperience. With these qualifications the propriety of the suggested course will be acknowledged:—

"Qualification being *legally established*, a general incorporation of the profession so constituted would be requisite for the purposes of internal regulation and self-government. As *years must elapse* ere the profession can consist *solely of the legally-qualified practitioners, this national Medical Institution or College might be constituted in the first instance by the amalgamation of the* [*members of the*] *several partial colleges that now exist, the College being afterwards open for the admission of all who should possess the qualification ordained by law.* The collective profession constituting a commonalty, a suitable and safe constituency might be created, by limiting the elective franchise to those who had been qualified for practice a certain number of years."

EXTENSIVE EXTRAVASATION OF BLOOD IN ONE HEMISPHERE OF THE BRAIN, WITHOUT INDICATIVE SYMPTOMS DURING LIFE.

To the Editor of THE LANCET.

SIR:—I am induced to trouble you with a few remarks on the case of a lady, lately a patient of mine, as I think it presents some points of very considerable interest in pathology, psycology, and medical jurisprudence. I have the honour to be, Sir, your obedient servant,

GEORGE FOWLER.

Kennington Common, July 13, 1840.

The patient was about sixty years of age, and had for the last three or four years been gradually declining in strength, and suffering occasional attacks of rheumatism. About six months since she was placed in circumstances which induced constant mental disquietude, and began to complain of symptoms, which I referred to a subacute inflammatory action in the mucous membrane of the stomach. She had no tenderness on pressure in the epigastric region, but deep-seated pressure under the false ribs on the right side caused her much uneasiness. There was loss of appetite, constant sensation of dryness of the throat, with clamminess, and a very unpleasant taste in the mouth; foul tongue; bowels never acting, except under the use of strong medicines; urine scanty and high-coloured; skin cool and dry, surface pale; pulse generally about 100, and feeble. There was also a constantly and distressing headach, referred in general to a confined space over the right eyebrow. This state continued with occasional but partial remissions, when about three months ago she began to suffer from pyrosis, the eructations consisting of a sour viscid fluid.

After two or three weeks the stomach became so very irritable that it would retain nothing, the blandest articles of food exciting vomiting. The pain in the head, however, which persisted throughout the case, was always relieved for a short time after each act of vomiting. As medicine

proved of merely palliative utility, by my advice Mrs. C. removed a short distance into the country, but without benefit. The pain in the head and continual vomiting were now the prominent symptoms, although a day or two occasionally intervened in which the vomiting was absent. Feeling herself sinking she wished to return home, which she did fourteen days before her death. She was carried from the carriage to her bed-room by a servant, who, in hastening up-stairs, accidentally struck her head with much force against the staircase. She had an unusually severe attack of vomiting on being placed in bed; but for the next week there was no material change in her symptoms. At this time she was seen with me by Dr. Robert Williams, who did not suspect any disease of the brain; but as he detected a tumour in the epigastric region, made the diagnosis of scirrhus pylorus from that fact, in combination with the general appearance, vomiting, &c. She gradually sunk, and died on the 8th of this month.

Autopsy.—About twenty-four hours after death I made an examination of the body, in company with Mr. Spencer Wells, who who had frequently seen the patient. On making the incision through the integuments of the abdomen, we were surprised to find a thick layer of fat. The peritoneum appeared healthy, though there was a small quantity of reddish serum in its cavity. The stomach was contracted, its coats appearing whiter and thicker than usual. On laying it open there was unusual vascularity of the mucous membrane, not the result of gravitation, particularly towards the pyloric extremity; but there was no trace of ulceration, nor of any disease of the gastric glands. The liver was of the natural size and texture, but adhering to the under surface of the right lobe, to the duodenum and pylorus was a tumour, the size of a man's fist. There were also two other tumours, of the size of a small orange, below the greater curvature of the stomach. These tumours we found to have originated in the pancreas, as in one which I preserved, the transition from the healthy structure of the pancreas to the morbid texture of the tumour is distinctly perceptible. We found no other disease in the thorax or abdomen.

On removing the calvarium, the membranes of the brain appeared perfectly healthy, and any congestion of the cerebral veins that was present resulted merely from the position of the head; both hemispheres of the cerebrum appeared of the same size and form. The texture of the left hemisphere was healthy, but the left ventricle was distended with serum, which had widely separated the layers of the septum lucidum. We were about to remove the upper part of the right hemisphere to expose the lateral ventricle of that side, when the knife passed into a quantity of coagulated blood. We removed the cerebral matter covering it, when it appeared that several ounces of blood had been extravasated, and the cavity which contained it was found to occupy almost the whole extent of the right hemisphere; the blood had also passed into and filled the right lateral ventricle. The walls of the cavity were of the consistence of cream, probably the result of the transudation of the serum of the blood, as there were no marks of inflammation in the cerebral tissue. The cerebellum, pons Varolii, and medulla oblongata, were normal.

Now, passing over the diagnosis of the abdominal disease, I proceed to make a few observations on the relation between the appearance in the brain after death and the symptoms present during life.

To the pathologist it will be interesting to observe, that notwithstanding this extensive extravasation of blood, and the breaking down of the cerebral tissue, there was not one solitary symptom usually considered indicative of sanguineous apoplexy: there was no loss of sensation or volition; neither convulsions nor paralysis; and, with the single exception of vision, none of the external senses were in any degree impaired; that of hearing was preternaturally intense. There was neither stupor nor coma; no dilatation of the pupils; no stertorous breathing; and the pulse was upwards of 100. The only mark of impaired vision was, that once or twice she thought the room was dark when it was not, and even then she withdrew her eyes from the presence of a lighted candle.

To the psycologist I would remark, that there was no evidence of any perversion of the moral or intellectual faculties; her memory and judgment were sound to the last; indeed only half an hour before she died, she gave some sensible parting advice to her servant, and remarked, that as the pain had now left her head, she knew she should not be here long.

I think, also, that this case is one of considerable importance to the medical jurist. Supposing, for instance, that the blow which Mrs. C. accidentally received had been intentionally inflicted, it would have become a very serious question whether the extravasation was the result of that blow, and if so, whether it were the cause of her death. On the one hand it might be urged, that there was no external bruise, and that no alteration in the symptoms followed the blow; on the other, that no other cause for such an effect could be discovered, and that from the appearance of the blood it could not, in all probability, have been extravasated a longer time, if so long. It had merely separated into serum and crassamentum; there had been no absorption of red particles, or separation of fibrin. It may be

said that blood could not be extravasated in the brain for fourteen days without undergoing these changes; but it has been shown to be the case in patients whose vital powers have been greatly depressed by active depletion, and probably a somewhat similar state of things might exist in a person worn out by a long-continued and exhausting organic disease.

Then, as to the cause of death, few or none will be disposed to deny that had the brain remained perfectly healthy, life might have been prolonged.

As to the treatment, the means I adopted were such as I thought calculated to calm the irritation of the stomach, with the careful removal of every cause likely to augment it. The diet was strictly regulated, and the state of the evacuations and secretions attended to; but I troubled her with no more medicine than was absolutely necessary to effect these objects. Leeches were applied to the forehead, two or three times, but gave no relief. When the pain was most intense, it was usually alleviated by a full dose of opium and ammonia.

ANEURISM BY ANASTOMOSIS.

To the Editor of THE LANCET.

SIR:—It may be affirmed that aneurism from anastomosis has, until within the last few years, been far too little understood; the surgeon not being acquainted with its exact nature, has performed only very imperfect operations for its cure. Mr. John Bell is allowed to have been the first person who accurately described the disease: previous to his time, very vague conceptions were entertained regarding its true character, and it was not until this distinguished surgeon published his "Principles of Surgery" that it was looked upon as deserving more serious attention. Amongst modern surgeons Mr. Liston stands foremost on this subject, having contributed, through the medium of your valuable Journal, several interesting cases in elucidation of this kind of aneurism; to him we are indebted for much important information as regards both its pathology and treatment.

In adverting to the true character of this disease, I feel I cannot do better than transcribe Mr. Bell's own account of it:—"The swelling is a congeries of active vessels, and the cellular substance through which these swellings are expanded, resembles the gills of a Turkey-cock. The tissue is made up of small and active arteries, absorbing veins, and intermediate cells: the irritated and incessant action of the arteries fills the cells with blood; from these cells it is reabsorbed by the veins, the extremities of the veins themselves, perhaps, dilate into this cellular form. There seems to be a perpetual circulation of blood, for there is constant pulsation, the tumour is permanent, but its occasional variation in bulk is singular; it swells like the gills of a Turkey-cock in a passion; it is puffed up by exercise, drinking, or emotions of the mind; it is filled and distended with blood upon any occasion which quickens the circulation, as by venery, menstruation, the pleasures of the table, heated rooms, or the warmth of bed. The tumour beats continually, increases slowly; its surface bursts; it bleeds from time to time; its pulsation and hæmorrhages give it a title to rank with aneurisms, and its internal structure is such that I may venture to name it, 'aneurism from the dilatation of anastomosing vessels.'"

It is to be feared, that even in the present day this disease has, in some instances, been far too little thought of, and its cure attempted on unsound principles: pressure is not only inadmissible, however judiciously applied, but has frequently been found to aggravate the complaint. Simple incisions into the swelling have, also, sometimes been tried; the result has been active hæmorrhage, controlled only by pressure, the patient, perhaps, being exposed to great exhaustion from loss of blood. When it is considered that the texture of the tumour is made up of a congeries of enlarged vessels, freely anastomosing with each other, it follows that no plan of treatment, short of complete insulation of the morbid tissue, affords the least rational hope of a permanent cure, whenever the disease is situated in a part to admit the use of the knife. It *must, therefore, not be cut open*, but *cut out*; and the incision should extend to the undivided branches of the arteries before they have formed their inosculations. In cases where incisions cannot be safely practised, the plan of needle and ligature, adopted by Mr. Liston, may be employed. The following case which lately came under my care, affords a further exemplication of the above remarks:—

R. R., Esq., aged 21, about two years since observed a swelling on the centre of the forehead; at this time it was not larger than a split pea. It soon began to throb, and slowly, but uncontrollable, to grow larger, unattended by pain, or tenderness upon pressure. From its slow development Mr. R.'s attention was not particularly directed to it, until about six months since, when it rapidly enlarged; it was shortly after this period that he consulted me. In the centre of the forehead I found a pulsating tumour, not of a very circumscribed form, approaching the size of an almond. On its upper surface was observed a purple spot, the lower portion of the skin appearing quite sound; it was easily compressed, but redistended itself when the finger was removed from its surface; both temporal arteries could be distinctly traced, large,

tortuous, and throbbing, entering the upper third of the tumour, whilst the orbitary artery beneath greatly increased in calibre, was found to enter its right and inferior portion. The pressure of these vessels by the finger caused the pulsation to be more feeble, but did not suppress it entirely; bodily exertion or mental excitement invariably augmented both its size and throbbing.

Mr. Crosse, of Norwich, who saw the case in consultation with me, agreed with my opinion as to the expediency of cutting out the morbid tissue. On Saturday, the 3rd of May, I performed the operation, assisted by an intelligent friend. An incision was made on each side the tumour, forming an ellipsis, and these at such a distance from each other as completely to encompass the diseased mass; the tumour was rapidly dissected out, laying bare the pericranium. For a short time the bleeding was vehement, until the divided trunks of the arteries which nourished the disease were secured by ligature: these means, in conjunction with moderate pressure, effectually arrested the hæmorrhage. For the first two or three days cold-water dressings were employed, and at the end of a month cicatrisation of the wound was completed. I remain, Sir, your obedient servant,

W. C. Worthington,
Surgeon to the Lowestoft Infirmary.
Lowestoft, July 27, 1840.

NEW HOOK FOR THE OPERATION OF

DIVIDING THE INTERNAL RECTUS MUSCLE.

To the Editor of The Lancet.

Sir:—That you may render a service to the profession, and a relief to the sufferings of many afflicted with obliquity of vision, I beg an early notice of an improved hook which I have recently employed in many cases with perfect success.

The shape and size of the instrument (which was made by Mr. Weiss) are accurately indicated by the annexed figure.

Being formed with a view to its turning freely in a small and deep space, its object is to pass beneath the rectus muscle at its narrowest part, in such a manner as to inclose all the fibres of the latter at once, and bring the muscle perfectly into view, without causing it to be violently stretched, or the globe pulled from its socket; a process which causes intense pain to the patient, when a strait or slightly curved director is used to separate the muscle from the sclerotic.

Its advantages to the surgeon are, that he can readily secure the whole muscle, and separate it to any extent he pleases, without using more force than necessary to separate the cellular tissue between the muscle and the globe; also, should any fibres remain undivided, he can, in consequence of the free motion which the peculiar curve of the hook allows, readily find them: it likewise enables him to make an even division of the fibres of the muscle, which, with the scissors (without the use of the director or hook), cannot be done.

To the patient the advantages of this hook over the common director are inestimable, as it saves all the pain caused by the stretching of the nerves, and of the parts which attach the eye to the orbit.

Its advantage over the scissors (when used without the director or hook) is, that it allows of an even division of the muscle close to its insertion, for in many cases where the muscle is *not* cleanly and closely divided to its insertion, the irregular fibres swell, become inflamed, and granulate, so as to require several applications of caustic or sulphate of copper during two or three weeks after operation.

In not any case where I have employed the hook and divided the muscle evenly, and closed its insertion, has the application of any caustic been required. I am, Sir, your most obedient servant,

James J. Adams.

27, New Broad-street, City, Aug. 3.

P.S.—My friend, Mr. Macmurdo, has requested me to say, that he has found very considerable advantage in the use of the above-mentioned instrument.

ON THE INTIMATE STRUCTURE OF TUMOURS.

By DR. MANDL.

THE structure of tumours and other morbid productions has recently been pursued with much activity by continental pathologists. The following are the principal points connected with this interesting subject which they have ascertained: they are analysed from a memoir by Dr. Mandl, in the last number of the *Archives Generales*:—

Valentine has described, in the tumours of the head which simulate osseous tissue, small transparent rhomboid bodies, possessing the chemical properties of horn. Fibrous tumours of the uterus are composed of bundles of loose fibres, transparent, and altogether free from granulations. The fungous exostosis of Cooper contains a great quantity of gelatinous matter, with regular fibres parallel to each other, and arising from the osseous mass in the form of radii. Müller, (in his recent work on the intimate structure and form of tumours,) after some general observations on tumours and their chemical nature, commences with cancer. Cancerous tumours, according to Müller, are those which destroy the proper structure of the tissues, and are constitutional from their origin, or become so during their progress, and which, when extirpated, recur and destroy life. The elementary tissues of an organ are, at first, merely displaced by the granules of carcinomatous matter which are deposited between them; but gradually they become united together. The different species of cancer depend on the different development of the elementary matter; M. Müller distinguishes six species of carcinoma.

Carcinoma Simplex (*Scirrhus*).—Scirrhus is composed of fibrous and grey granular substances, mixed together: the latter is situate between the meshes of the former, and is formed of transparent, hollow, microscopic globules, of not more than 0·00045 to 0.001 or 0.0012 of an inch in diameter. The masses of globules may be easily separated from the meshes between which they are deposited, and are not adherent to each other: this form of cancer also contains some fatty matter.

Reticulated Carcinoma.—This is more frequently found than the former in the female mamma: it is divided into lobes, and on cutting it across we perceive white reticulated bodies in the grey mass; the latter is similar to the grey matter of scirrhus. The reticulated bodies are composed of white granules, which are occasionally united together, and form white spots, resembling white tubercular masses in the grey substance: this species is most subject to recur after extirpation.

Alveolar Carcinoma.—This species is most frequently met with in the stomach: the globules inclose little cells, furnished with nuclei; the latter are, in their turn, developed, become cellules, and at last the superficial cellules burst, discharge their gelatinous matter, and are transformed into fibres.

Carcinoma Melanodes.—Melanotic cancer is composed of fibrous tissue, containing in its meshes cells filled with yellowish or dark granules: the cells, which vary from 0.001 to 0.00036 of an inch in diameter, are sometimes adherent; and the granules exhibit a molecular movement.

Medullary Carcinoma.—The different colours of this species depend on different quantities of vessels, of effused, decomposed blood, &c. Microscopic examination shows that under the term *medullary cancer* are united the following varieties:—1st. Fine fibrous tissue in preponderance, with white, globular masses. 2d. Soft fibrous tissue, of the consistence of brain, with pale, elliptical globules. 3d. Fusiform globules, so arranged as to resemble fibrous tissue.

Fasciculated Carcinoma.—Amongst the tumours which are comprised under the name of *fungoid* cancer, there are some composed entirely of fibres which are irregularly covered with granules: these tumours do not contain any globules; they are sometimes divided into lobes, and numerous vessels follow the direction of the fibres, which are arranged in bundles.

All these carcinomatous tumours contain albuminous matter and osmazome, which compose their chief bulk; caseum is, also, frequently found in them; the small quantity of gelatine seems to belong to the cellular tissue mixed throughout them. From the above researches, Müller concludes that carcinoma differs essentially from induration and indurated ulcers; but in its elementary matter does not differ essentially from non-malignant tumour, or the elementary tissues of the embryo.

In the second division of his work, M. Müller examines those tumours which might be confounded with cancer. The last fasciculus contains three species.

Enchondroma, or the cartilaginous tumour, commences, in bone, by softening of the internal spongy substance; the external substance is dilated, becomes very thin, and is finally perforated with numerous holes. When situate in the soft parts (glands, &c.), the cartilaginous tumour is covered by a thin, cellular membrane; interiorly it is composed of fibres, arranged in a cellular form, and containing a peculiar substance called *hyaline*; this latter resembles, in its minute structure, the cartilage of the fœtus.

Cholesteatoma.—M. Müller distinguishes three species of adipose tumour. First,

lipoma (*Lipoma simplex; L. mixtum; L. arborescens*); second, adipose cysts containing hairs, &c., and found in the ovaries; and, third, the tumours described by Merriman, Dupuytren, and Cruveilhier. This tumour consists of very fine concentric layers; when examined under the microscope, the layers present the appearance of polyhedral cellular tissue, with cellules of 0.00075 of a line in diameter; the latter are pale, transparent, and empty; they are enveloped by an animal substance.

Cystosarcoma; Cystoides.—This, according to Müller, consists in a solid, fibrous, vascular substance, containing isolated cysts: it embraces three varieties.

We have now to notice some recent microscopic researches of Vogel, Simon, and others.

M. Vogel informs us that the encephaloid tumour is composed of small corpuscles of 1.7000 to 1.1500 of a line in diameter; of other larger globules which sometimes contain a nucleus; and, finally, of corpuscles covered with small dark points.

MM. Dubigk and Simon, of Berlin, have examined the structure of condylomata. According to the latter, the flat condyloma is composed of two substances which may be separated by maceration; one contains the elements of epithelium; the other is composed of fibres similar to those of cellular tissue, united irregularly into bundles, and studded with globules; hence the intimate structure of this condyloma is similar to that of cellular tissue. The pointed condyloma does not differ in any essential matter from the flat one. In chemical properties they are quite analogous to granulations and skin.—*Arch. de Med.*, July, 1840.

TRIAL AND VERDICT

IN A CASE INVOLVING THE QUESTION OF THE NATURAL TERM OF UTERO-GESTATION.

To the Editor of THE LANCET.

SIR:—I forward you, by this day's post, the "Western Times," of August 1, 1840, containing a full report of the cause, "LUSCOMBE *versus* PRETTYJOHN," tried at Exeter, during the present assizes. The case is interesting, as a recent instance in which a jury has expressed its belief that the term of utero-gestation may be prolonged to forty-two weeks and five days. Mr. Justice Coleridge, in summing up, stated that the usual period was exceeded by *three* weeks and five days. The mistake arose from his confounding nine calendar months (272 days, February being one) with forty weeks. The verdict was evidently against the opinion of the learned judge, as well as opposed to the general bearing of the evidence. No medical witnesses were examined. I am, Sir, yours truly,

MEDICUS.

Exeter, Aug. 1, 1840.

*** The following is an abstract of the report, which occupies four columns in the newspaper, under the head of

SEDUCTION. EXTRAORDINARY CASE.

LUSCOMBE *v.* PRETTYJOHN.

An action brought by a farmer, of Woodleigh, to recover compensation for the loss of his daughter's services. All the ladies were ordered out of court. Mr. Crowder for plaintiff, Mr. Erle for defendant.

The declaration stated that the defendant had debauched Dorothy Luscombe, whereby she became pregnant, and was delivered of a child. The defendant pleaded "Not Guilty."

Mr. CROWDER addressed the jury. The case was most serious and distressing. The plaintiff, Mr. Luscombe, moved in a respectable sphere of life, in Woodleigh, where he had educated six children. Two were daughters. The subject of the present action, in January, 1838, had attained her seventeenth year; and in the early part of that year the defendant first became acquainted with her. He was about forty-six years old, a merchant in cider. In January, 1838, the young woman at Kingsbridge market met with the defendant; although but little more than a child, she had been in the habit of attending to her father's business, by taking poultry and butter to market, on every market-day. In the course of her visits she became acquainted with the landlady of the inn to which she was in the habit of going to wait for her father; and in one of these visits Prettyjohn came in. Before that she had never seen Prettyjohn, but he had been acquainted with her family. After conversing with her some time, the defendant asked her whether she was going home. She said, shortly. Accordingly, when she had gone a short distance, he fetched his horse and accompanied her a considerable way towards her father's house. In the course of conversation Prettyjohn made himself agreeable to her, and asked her whether he might pay his respects to her as a lover. She agreed. At different places they met, and walked together; and on one evening, in some retired situation near Kingsbridge, he made those proposals to her which, the young woman fully believing that she was to become his wife at some other time, led to an intercourse between them. Subsequently, he tells her he did

not intend to marry her at all. The girl, in alarm, gave him an intimation that she was pregnant. The man then stated, that if she found herself pregnant, she should take drugs to destroy the child. (Great sensation.) He now discontinued his visits. Several months afterwards, when in the neighbourhood, her mother spoke to him on the subject, and he said, "I will not go near her now, but I will after her confinement, and make her a handsome present." At this meeting, he says, one of the reasons why I shall have nothing to do with her is, that I understand that she has been with other men in my absence. The mother asked him who had given him that information. He refused to tell her, and said that her daughter was a strumpet. He understood the defendant was a man of competence, and qualified to fulfil the promise to marry her. He was now in court, to intimidate by his presence the victim of his lust. (The defendant now moved out of court.) If he were out of court, so much the better. His learned friend (Mr. Erle) would show that she had left the path of morality after this transaction. What could he gain by that? If she had not been virtuous after she had been led into vice by the defendant, would that serve the defendant? He begged the jury to mark their sense of the injury which the defendant had inflicted upon the family.

Dorothy Luscombe, who entered the box free from embarrassment, with a white satin bonnet, lace edging, rich silk dress, her figure somewhat gaunt, and her face free from the expression of hidden sorrow. [Examined by Mr. BUTT.] I am nineteen. In 1838, I assisted my father and mother in business; I used to attend Kingsbridge market on Saturdays. At the Golden Lion Inn, in January, 1838, I saw Mr. Prettyjohn; we talked for an hour; I went home with my father. Upon the next Saturday I saw Prettyjohn in the street; he asked if I was going home, and said he would overget me on the road; I was on horseback; he rode on by me. I went to Kingsbridge market on the following Saturday; he then said he had something to say particularly; we walked down the street, and then into a narrow lane; he wanted to have a favour which I would not allow; he said he meant to marry me, so help his God; I would not allow him; he talked to me much; he said he would be married if I would allow him; I allowed him. After this he went some way with me towards my home. He asked me if I would come again on Tuesday evening, near our village; I met him at six o'clock, and he walked with me into the fields; something took place there. He proposed to meet me the Wednesday after—Wednesday week—near Topsham Bridge; something passed on that occasion; I asked him when he intended to be married; he said, never; and if I was in the family way I was to take salts to destroy the child. When we met near the bridge, he took me into a copse; I met him twice at the bridge; I did not meet him after that. Some time after I found myself in the family way, and was confined in the December following. The child is alive; my father supports us.

Cross-examined by Mr. ERLE.—That is not my market bonnet, nor is this the dress I wore in the copse; it is the dress I wear for church. Nobody else had ever asked the question of me that Mr. Prettyjohn did; I mean to abide by that. I know Mr. Foster; I never spoke to him about marrying me; he lived with my cousin; I have never walked with him at all, nor ever spoken to him on familiar terms. I know Mr. Gyle; I have never walked with him, but I have rode home in company with him part of the way, two or three years ago; my brother was with me. I have been friendly with Foster; I never told him that he was the father of my child; I never spoke to him about it on any occasion. I perceived that I was pregnant at the beginning of March, a few days before I went to Plymouth; I had not then found my figure increasing, but I found it out. The child was born the 5th of December; it was full-grown.

Re-examined.—I wear that bonnet at church, and then put on my best things, as other young women do. On my oath I never had any talk with any other man. I did at the market as all other farmers' daughters are accustomed to do; my father took corn there, and I took poultry and butter; I had a regular stand there. I never went home without my father, but when I went with Prettyjohn. Foster lives at Preston; I never, on my oath, had anything to say to him improperly. I was confined at my father's on the 5th of Dec.; I had proper attendance at my father's expense. My father has 300 acres of land.

The JUDGE.—I want to know how many times you were acquainted with Prettyjohn. The first was a fortnight after you saw him?—Yes. Then there was the Saturday after that; that was two; then the Tuesday following; and then the Wednesday week?—Yes. Then there was one other time, by Topsham Bridge; how soon after that Wednesday?—Two days; that was the last time.

Mary Anne Dennis.—I am the cousin of last witness; I live at Plymouth; she came to pay me a visit; she never went out alone; I never knew her speak to any men, officers, or others; I have known her all her lifetime; I have never known her to be a light girl. As far as I have seen, Mr. and Mrs. Luscombe have brought up their family well.

Cross-examined.—Prettyjohn promised to come and see the child; there was nothing said by him about the child of many fathers. She came and went to Plymouth in March.

Re-examined.—To my aunt he said he

would not marry her, because he heard that she had been with other men. Her state at this time was such that anybody could see.

Mr. Robert Lavers.—I am a farmer; I married plaintiff's elder daughter; the father has brought up the family well. Prettyjohn, in March, said it was a bad job, and that he wished to settle it. The farmers, at the ordinary, advised him to buy father-in-law's mare, for a hundred guineas, to settle it. He laughed, and said it was too much.

Mr. ERLE addressed the jury for the defendant, keeping the court in a roar of laughter. When that elegant lady (Miss Luscombe) appeared in the fashionable attire with which they saw her graced—to tell that tale, which, according to the ordinary feelings of womanhood, must have been painful to the last degree—he owned that he felt considerably relieved from the oppression which had overpowered him, at the pathetic opening of Mr. Crowder. Never did he see a woman behave as that woman, recommended so strongly to their sympathies as she had been. He did not object to that decent love of ornament which distinguished the sex; but he was disgusted at her flaunting appearance, when she stood in that box to narrate such a story before hundreds of strange men, and he was struck with the ludicrous contrast which she made to his learned friend's pathetic opening. Charges of violation were such that it was almost impossible that witnesses could be present, and a man could not be heard in his own behalf. Might he beg them to beware about giving encouragement to young women of loose principle to charge familiarities on men, and speculate upon the chance of juries being carried away by motives of pity, or any other which a counsel could suggest. One thing had struck his lordship. Here was a child born on the 5th Dec. 1838; and yet Miss Luscombe did not come here till now, but had kept this action hanging over, that there might be a large sum got from the defendant. He prayed them to do justice in this suspicious case. The father says that the defendant debauched her, and begat that child. He (Mr. Erle) totally denied this on behalf of his client. Was his client the man who seduced this young woman? Was that a story which any jury would believe? The young woman had faculties enough, and unless she had been pretty well hacknied she never could have made that acquaintance at the inn which was stated in evidence, and which was almost too ludicrous to be presented to the jury. Was there any maiden modesty in that? She discovered, too, that she was in the family way with as much ease as the surgeon of a lying-in hospital. It was out of the question to say that she thus lost the privilege of being a virtuous woman. The question must have been familiar to her. The only motive of the plaintiff was some speculation as to damages and costs, and no real grievance. It was a gross injustice to say that his client had dragged her from the paths of virtue. Her own narrative carried with it the completest negative. How was all this done? With no shame, no tears, no imploring, no denial; but "I will meet you the following week. Topsham Bridge is a nice place—there is a copse near." At these interviews there had been very little virtue to get rid of, and few scruples to overcome. From the evidence of the witness herself the intimacy closed in February. Could they believe that his client was father of the child born on the 5th of December? No one human being was brought to prop up her story in any one material item, except the female cousin from Plymouth. He called upon them to discredit the story of the drugs, as there was no evidence to show that he was the father. He should prove that the girl had been free with other men. He had asked if she had never been friendly with Foster, and she said, "Never in my life." He would call before them a relation, at whose house Foster lodged, who would tell them that she had come there for an interview, and pressed the man who would swear that he was the father of the child. Her answers showed that she hardly understood the sanctity of an oath, and that as she was careless about her chastity she was regardless of truth. If they believed that she was unchaste before, they would not find a verdict on such testimony as had been offered. He would now call witnesses who would prove that the action, which had been so long pending, ought never to have been brought into that court.

Mrs. Susan Luscombe.—I am a relative of plaintiff. I live at Walkham. Mr. Foster lived at our house in March, '38, till October. Dorothy Luscombe waited outside on horseback, while I went in and told Mr. Foster that she wanted to see him, but he would not come out.

Cross-examined.—She often came, but we never visited much. She used to come to see me. Her father and mother are very respectable people. At their house I never saw anything improper in her conduct. Foster lived independent; his uncle paid for his board. Tradesmen did not come and ask him for money; I never heard that he was pressed for money. Never had a quarrel with the Luscombes. I never once saw her and Foster together. I never heard anything against that young woman, but that she had been with different young men. I cannot mention one person who ever said so, before she had a child.

Francis Foster (on appearing to be sworn, was saluted with a storm of hisses from the spectators in the gallery, when the Judge said, if I hear another expression of that

kind I will clear the court), I became acquainted with Dorothy Luscombe in the month of March. I was acquainted with her more than once. She came where I was lodging on horseback. Mrs. Luscombe said that she wished me to meet her; I met her the night following, and went to Woodleigh with her, and there met her brother. She was with child, and said that I was the father. She asked me if I would marry her.

Cross-examined.—A farm in Kingskerswell was given up to me. Never saw Prettyjohn till this day week. I took her behind Dodbrook. I did not speak of it to any one. A man of the name of Carpenter introduced me; he said, "If you mind to have a bit of fun, I will introduce you to a girl." I mean to swear that I never saw Prettyjohn till last Tuesday, when he came and "supined" me. I never told anybody till he "supined" me. (Great sensation.) I told him the whole story. I used to see her frequently for two or three months, till she pestered me. I do not know how much I owe. [Witness was rebuked for giving a knowing nod to defendant's attorney.] I owed a pretty good deal, but have no particular care about it; it is no great secret. I was sitting in court all the time this young woman was being examined—opposite to her.

Grace Hannaford.—I served my apprenticeship with Miss Luscombe's father, and left in August, 1837. Thomas Gill lives about two miles from my master's; I have seen him come home with her; he was married, and had been separated from his wife for eight years; she came home from Modbury fair in 1837, between twelve and one; Thomas Gyll came back with her; I saw her between New House and Endham farm with Thomas Gyll; they were doing things that were very improper; I knew it was Mr. Gyll.

Cross-examined.—She would in winter be out all night long, for two or three nights; she was never tipsy; I did not notice it as anything particular, and the family did not. They are a loosish family. (Laughter.) Mrs. Luscombe is a bad sort of woman, and Mr. Luscombe a bad sort of man, and all the young Luscombes, a pretty rough lot all of them. (Laughter.) I live in a pot house now; Prettyjohn found me out there last Tuesday; I never saw him before last Tuesday; she used to go to the fair alone, and pick up who she could. In 1836 she used to have a bad character; I was there 9½ years, she was very well at first, but within two or three years she used to go after the men, and so continued all the time till the last; I never told the mother, because she was such a terrible woman, and would make such a noise about anything wrong that she would hear; I am separated from my husband; I think it was for poverty. [It is impossible to give an idea of the reckless manner in which this witness replied. The judge subsequently advised the jury to reject her evidence altogether.]

A Juror wished to know what she left the Luscombes for; she replied, because her master used to come to her bed-room of a night; she told her father, and he took her home.

Mr. Crowder, in reply, addressed the jury for two hours, being frequently greeted with bursts of applause from the gallery. He said this was a distressing attack on the character of a young girl, to prevent her father from recovering compensation, attempted both by the counsel and by witnesses. He had surmised at first that Mr. Prettyjohn would attempt at all hazards to avoid the pecuniary penalty which he had to meet. His learned friend had referred to the young girl as one who had a flaunting tawdry person, whose very appearance excited distrust. He (Mr. Crowder) contended that the appearance of the witness was that of a modest young girl, brought up in the family of a highly-respectable farmer, taught to go to church; and because the daughter had come there in the bonnet she wore to church, she was designated as a flaunting, person, and they were called on to disbelieve every word she said. She had come there to commit perjury, because she had put on her best clothes. Had she appeared in tears, with her head hung down, and her voice faltering, his learned friend would have condemned that as an exhibition of "mock modesty and affectation." She had given her testimony in the clearest manner, readily and becomingly, and there was nothing in her replies to cast the least doubt upon her evidence. When his learned friend put *the* question, so far from any lightness of manner, he (Mr. Crowder) was persuaded, from the examination and cross-examination, that she was the witness of truth, tried as she was by the daring effrontery of Foster, who had sat staring her in the face to confound her. The defendant had slunk out of court after the observations which he (counsel) had made on his presence there; but his friend, Mr. Foster, had remained behind, to intimidate the witness from speaking the truth by his desperate effrontery. There was nothing either in the story or the appearance of the young girl to justify the charge that she was a common strumpet. Mrs. Dennis's evidence was forcible and unimpeachable. He then commented on the evidence of Foster (who grew uncomfortable, and made a hasty retreat out of court). The case rested entirely on Foster and the apprentice, and their evidence was an insult to reason. What was its character? Why, that Miss Luscombe at about twelve years of age was in the habit of going with men, and leading a life of outrageous dissoluteness.

The woman's evidence was but a proof of her ill-will towards the whole family, who she described as a rough lot, and wound up by saying that the old gentleman wished to bed with her! Yet she swore that the mother was a severe woman, a most direct contradiction of all that had been said. The most abominable exposure that had ever appeared in a court of justice was the presence of that man, who could make the avowal which he had without a blush, and without changing the tone of his voice. No human being was brought who had ever seen them together. He comes without reluctance, glories in his shame, and swears even that he had never seen Prettyjohn before. The statement of that man, opposed as it was to the oath of the girl, could not for one moment obtain belief. With regard to the *time* when the child was born, *a difference of a week would remove every objection as to time.* The real question is this, do you believe that young woman? If you do, beyond all question Prettyjohn was the father of the child. With regard to defendant's pretended ignorance of the daughter, that was the idlest pretence, not made in earnest, for he admits his acquaintance with her, and deserted her because he had heard rumours of her being acquainted with other men, saying that he would, after the confinement, make a handsome present for the child. And yet he opposed the father in the attempt which the law allowed him to make for obtaining satisfaction. He was conscious that plaintiff would not appeal to the jury in vain.

The LEARNED JUDGE summed up. He approached the examination with anxiety, because many things had been said which were calculated to mislead the jury as to whether the verdict should be for the plaintiff or defendant, and if the damages should be for the plaintiff or defendant, and if the damages should be heavy. They should not find a verdict for the plaintiff unless the evidence satisfied them both that the defendant had had communication, and was also the father of the child; because, if not, he had not occasioned the injury with which he was charged. They might be perfectly well satisfied that he had had communication, but yet upon the evidence it was almost impossible that he was the father. His lordship wished the most correct interpretation to be given of the witnesses. They were not to tie the girl to the particular day, unless she swore positively to it; but supposing she was exactly correct in what she said, the jury must get over the following facts before they could believe that defendant was the father:—In 1838, the first day was *Monday*, consequently *the 6th of January would be the first Saturday.* Now that was favourable for her story; she said that she saw him either on the *first* or the *second* Saturday in January. Suppose the *second*, and they were pretty certain that she was right as to *the day of the week*, because Saturday they knew was the market day, and she could not be mistaken as to the acquaintance being begun *on the market day;* and that it was on the second (Jan. 13) that she saw him first. On the following Saturday, the 20th, he saw her home, made love to her honourably; she accepted, but nothing passed of a criminal nature till the following *Saturday, the 27th.* After this there was no reason to apprehend a mistake, because she did not fix it by the Saturdays, but gave the day of the week and the intervening days—next meeting him on the Tuesday following, on the 30th of January, when she made an appointment for the Wednesday week, and again two days following, *on the 9th Feb.*, which she says was *the last time.* Nine calendar months would bring the birth of the child to the 9th of November. But supposing she were right, that would place the birth at nine calendar months, three weeks and five days. After adverting to some medical authorities, as to the limitation of the period of gestation to nine calendar months, he said, in effect, that he should rather incline to believe that she had been unchaste with some other man, than that the laws of nature had been altered for her accommodation. Mr. Crowder had endeavoured to meet the difficulty by giving a *week*, but that would not do so. It was *three weeks and five days.* If she had had a subsequent acquaintance with Foster, that would get rid of the difficulty. His Lordship adverted to the readiness with which she had surrendered her chastity, though he believed that much more was said by the defendant, and more persuasive arts used, than she had stated. He thought that the dress which she had on in court was not the most becoming for her situation. The jury had much to weigh before they could decide that the defendant was father. Touching the promise to marry her, that was the kind of thing which a woman expected to have said to her before she yielded to the solicitations of a man, and they very often gave way after it is said without believing it at all. The man might acknowledge that he was father, if taxed with it during her pregnancy; but if the child was not born till two months after he expected it, he would then conclude that somebody else must have been the father. The child was full grown—of that there need not be much doubt, as it had plenty of time to grow. According to the mother, it was not born till three weeks and five days after the usual time. On this point he would rather believe that she had yielded to some other attempt on her chastity, than that so wide a departure from the usual course of nature had taken place. Her calling on Foster, who refused to go out and see her for an hour, was a strong presumption that something had passed between them. If not, why did he not go out.

With regard to the note, if she had written that note to Foster, it was a strong corroboration of his statement. He was anxious to consider Foster's evidence dispassionately. When Foster went into that box, he heard hissing in the court; and, certainly, on the face of it, there was something very disgraceful and revolting in the idea of a man standing up to state that he had enjoyed a lady's favours; but the whole question was, as to whether he spoke truly. Suppose that any one had met with an abandoned woman in the streets, and had over and over again been acquainted with her; and suppose he heard that she was about to swear a child to his friend, would he not be justified then in coming forward to state the truth? If a man had seduced a woman who was perfectly modest before, that would be a very different case; and if that man spoke falsely under such circumstances, then he would be the most disgraceful scoundrel on earth. But it all depended upon whether this girl was a loose character, and whether Foster himself were conscious that he was father. In that case, what was there in his evidence to hold him up to public reprobation? Was that good sense or not? If they believed that he was perjured, then, indeed, he was the most atrocious of liars. He (his Lordship) would state a fact that came within the knowledge of himself, and many barristers then in the court, where a girl swore a child to one gentleman, when it was pretty well understood that there was another gentleman in court who knew himself to be the father. He perfectly well knew what was thought throughout the city of the silence of that gentleman; and yet if he had got up in court and given evidence of the fact, he would have been liable to be hissed as this witness had been. He had given them the whole of the evidence, because he wished a little time to interpose between the very eloquent speech of Mr. Crowder and their deliberations. There were two questions before them. Was the defendant the father of the child, and, if so, what damages would they award? They were not a court of justice for punishing the parties. If he seduced this girl by crafty arts, and that she was virtuous before the promise of marriage, they ought to give ample damages; but the main difficulty was, for them to believe that the defendant was the father.

The Jury laid their heads very closely together for about a quarter of an hour, and then returned a VERDICT FOR PLAINTIFF—Damages £150.—(*Cheers in the gallery.*)

THE NON-LINNÆAN DISSERTATIONES ACADEMICÆ.

To the Editor of THE LANCET.

SIR:—I am sorry again to have the task imposed upon me of correcting the egregious errors committed by Mr. Houlton in his letters. Mr. Houlton states, "that he never knew any one but Dr. Sigmond to entertain a doubt that these 'Dissertationes Academicæ,' which are well known to all persons who have studied the great master, Linnæus, to be one of the genuine works of Linnæus." This is one of the most extraordinary blunders ever made by a man pretending to know anything of the subject. These dissertations were the theses delivered in by the young men who graduated at the university whilst Linnæus was President; and Mr. Houlton might almost as well say, that because the name of George Baird appeared for so many years upon every thesis that was delivered at Edinburgh whilst he was President, that he was the author of all the Edinburgh theses. I will, however, with your permission, quote Dr. Pulteney's account of these dissertations, as he has given it in the life of Linnæus:—

"In 1749 was published the first volume of a collection of dissertations in octavo, under the title of 'Amœnitates Academicæ, seu Dissertationes variæ Physicæ, Medicæ, et Botanicæ." Linnæus and Camper both published it in the same year; the former at Stockholm, and the latter at Leyden; but Linnæus alone continued the whole work afterwards, though the volumes were all constantly reprinted as soon as published, both in Germany and in Holland. As these academical theses were sustained under Linnæus, in his professional capacity, and selected chiefly by himself, they have been regarded as of equal authority, nearly, with his own writings, various parts of which they extend and exemplify in a particular manner."

Mr. Houlton says, that the opinion is peculiar to Dr. Sigmond, that the dissertation in the "Amœnitates," entitled "Odores Medicamentorum," was by a pupil of Linnæus, named Wahlin, and that another on "Medicamenta Graveolentia," was written by Fagræus; and he thinks them to be the genuine works of Linnæus. These blunders are of the same kind, as Mr. Houlton will see, if he will read the titles of the papers. That of the "Odores" is thus given: "Odores Medicamentorum quos, præside D. Doct. Carólo Linnæo, publicæ censuræ modeste submittet Andreas Wahlen."

Mr. Houlton concludes his inaccuracies by saying, apropos, "I should like to know why Dr. Sigmond calls the aphorisms of Linnæus, Postulatums." And that when he, Mr. Houlton, read Euclid many years ago, he learned that a postulate was something assumed without proof. In the first place, I did not call an aphorism a *postulatum*, but I made use of the very words employed in the analyses of Fagræus' paper, entitled, "Medicamenta Graveolentia;" and if Mr. Houlton will refer to Pulteney, he will find it commence thus: "It is a postulatum in

the philosophy of Linnæus that the qualities of medicines are, in a general way, to be determined by their effects on the organs of taste and smell." The definition that I have been taught of *postulatum*, differs most essentially from that which Mr. Houlton has given. I quote an authority which I do not think is to be disputed, when I give him the following explanation of a postulatum: "Postulates are fundamental principles, in any art or science, which are taken for granted as being such easy and self-evident propositions as need no explication or illustration to render them more plain."

I take my leave of Mr. Houlton, as I have occupations of more consequence to myself than replying to his ill-founded assertions, and shall not again notice any communication he may make. I have the honour to be, Sir, your obedient servant,

GEORGE G. SIGMOND, M.D.

24, Dover-street, July 29, 1840.

LETTER FROM MR. OWEN.

To the Editor of THE LANCET.

SIR:—Perceiving in THE LANCET for July 25, another article connected with the comparison of Mr. Nasmyth's discoveries and mine, I beg to say that it is not my intention to reply to that paper; and that, so far as I am concerned, this controversy is at an end. I have asserted nothing, in my published observations upon this subject, which I do not know to be true; but I owe it to myself to express my regret, that the irritation produced by the charges so pertinaciously advanced against me, should have led me, in some passages, into the employment of language which my calmer judgment disapproves. I remain, Sir, your obedient servant,

R. OWEN.

London, July 28, 1840.

OPERATION ON MR. WATT.

To the Editor of THE LANCET.

SIR:—Having been shown THE LANCET of the 18th instant, a letter containing some illiberal observations against Sir Richard Dobson, for having permitted Mr. Liston to amputate the arm of my late lamented husband, Mr. Watt, formerly assistant-surgeon of Greenwich Hospital, and having also seen Sir Richard Dobson's reply to the above, I shall feel much obliged if you will permit me to state in your valuable Journal that his explanation of the operation is strictly true.

Will you, also, permit me to express my sense of Sir R. Dobson's kindness in yielding to my feelings, in allowing one long known to my family to operate on that unfortunate occasion, and to express my extreme regret that his kindness and liberality should have been so misconstrued. I am, Sir, your much obliged servant,

R. SAMPLE WATT.

2, Bennett-street, East Greenwich, August 3, 1840.

*** The letter of Sir Richard Dobson, last week, was perfectly satisfactory, but we yield our own judgment respecting the necessity of inserting the above note to that of the lady who deemed it right to send it.

MANUFACTURE OF PHYSICIANS.

To the Editor of THE LANCET.

SIR:—It is notorious that a man may obtain the degree of "Doctor of Medicine" (the highest grade of rank in the profession), with the slightest *evidence* of medical education. For instance, an apothecary of this town, who was in practice before 1815, and, therefore, not needing to possess the Apothecaries' licence, this year retired from general practice, went to town, and bought a degree of M.D. from a German University; and by a late regulation of the London College of Physicians, with a mere examination *pro formâ* obtained its licence to style himself Member of the Royal College of Physicians, London. This degree (from Erlangen) was not obtained without, at least, a show of knowledge and professional acquirement. His thesis on the occasion is entitled "Description of a New Modification of the Obstetrical Vectis," and extends to about three pages of a description of the instrument and its mode of application (equal to a column of THE LANCET), and to five pages of cases. The only peculiarity in the instrument, is its being a little more bent than the ordinary lever, and being, therefore, *not a little* more dangerous to mother and child. Its mode of application is precisely the same as that of all levers that ever were or will be made, and the cases are of an every-day kind. When, in the true spirit of those who recommend cures for all diseases, the author says that he applies his lever to the groin in breech cases, *the breadth of the blade at the curve being one inch and seven-eighths*, it is impossible to avoid carrying one's eye forwards to the next paragraph, to see whether the author did not also use it for turning. In Case 4, where the head was "*immoveably* fixed in the brim of the pelvis," with the face to the pubis, the author pleasantly says, that after his two pupils had failed, "I, however, easily succeeded, by converting the presentation into a natural one."

In order to obtain credentials to practise as an apothecary, the worst remunerated grade in the profession, it requires an ap-

prenticeship, and an attendance of three winters and two summers on hospital practice and lectures. For a surgeon, about the same; each followed by a puzzling examination, and a danger of rejection and consequent disgrace. The surgeon-apothecary, which class embraces nine-tenths of the general practitioners, has to undergo both examinations; whilst to become a *physician*, requires neither apprenticeship, study, attendance on lectures, or examination deserving the name, and that only on subjects at the "option of the candidate." These are important anomalies in the profession. It is quite absurd to expect that attention from the Legislature which the importance of the question really demands. The doctor to whom I allude is now settled in this town, where, of course, he passes for a regularly-educated physician! I am, Sir, your obedient servant,

JUSTITIA.

Manchester, Aug. 3, 1840.

NAMES OF NEW MEMBERS OF THE ROYAL COLLEGE OF SURGEONS IN LONDON,

Admitted on Friday the 24th July, 1840.

William Salmon Lucas.
Charles Henry Garstin.
James Dutton.
Richard Galvin.
James Ebenezer Batho.
Alfred Octavius Leete.
Henry Francis Butt.
Robert Battow.
John Travis Dunn.
James Moline.

Admitted on Monday the 27th July, 1840.

Charles Smith Bompas.
Thomas Gabriel Bush.
George Hogarth Makins.
Gilbert Stewart Michell.
William Frederick Shoebridge.
John Harry Evans.
John Gray Henry.
John Henry Wrentmore.
Philip L'Anglois.
Robert George Fothergill Smith.
John Nicholas Tresidder.
Michael Murphy.
Edward Robert Houlden.

PINE-STREET SCHOOL, MANCHESTER.

A CORRESPONDENT, signing himself "Fiat Justitia," but who has forgotten to authenticate his letter, complains of the non-fulfilment of promises by the lecturers of the above school. He states that for several years past, in imitation of other medical schools of England, the tragedy and comedy of the season have been advertised to be wound up with the farce of a distribution of medals; but that the said farce has not been performed. The writer observes that he has been "a fortunate competitor on three or four occasions," but has been unfortunately detained in the award of the gilded pennies for "upwards of two years," which, in his opinion, and in ours also, is "conduct most unjustifiable." Unless the promised award shall speedily take place, our correspondent will have lived sufficiently long to despise such baubles, and will study his profession for itself, and not for these fripperies. Medals are to the student but too frequently the apples of the Hesperides, serving to distract the mind from nobler purposes. To the schools they are obviously the gilding of the "fee-pill," and a bait to catch the eye of customers, savouring not very remotely of quackery.

CAYENNE PEPPER IN SEA-SICKNESS.

To the Editor of THE LANCET.

SIR:—I am not aware that the remedy for "sea-sickness," mentioned below, has ever before appeared in print. The following has been put into my hands by Mr. John Hayward, who is therein described. I can vouch for his honesty, having known him for many years. I am, Sir, your obedient servant,

JOHN ELLIOTT.

Tunbridge Wells, July 27, 1840.

"The undersigned passengers, on board the New York packet-ship *Quebec*, Capt. Hebard, beg to return our sincere thanks to our fellow-passenger, Mr. John Hayward, for administering aid to us in cases of sea-sickness, and for the liberality with which he has allowed us to publish the means by which he effected an immediate and almost certain cure, viz., a small teaspoonful of Cayenne pepper, diluted in warm liquid, sweetened, and taken as soon as the sensation of the complaint occurs. We can, with sincerity, recommend the use of it to all sea-voyagers, not only for its efficacy but for its simplicity. It almost instantaneously restores animation, causing the stagnant blood to circulate in its proper course.

"July 16, 1840."

(Signed by 18 passengers.)

TO CORRESPONDENTS.

WE have been unable to find room for the Report of the British Medical Association this week.